Centers for Medicare & Medicaid Services

R & D Projects Database

PDF TRACKING FORM

Tracking Job Number	***150***	Printed: 5/29/2002
Document Title	A Prospective Payament System for Radiology, Anesthesia and Pathology Services Furnished to Hosptial Inpatients	
Author	Otis Bowen	Document Date 30-Jun-87
Document Description:	Report to Congress	

Project Specifics

SR Number

Project Number

Project Title

Awardee

Project Officer

Principle Investigator

Funding Level

Start Date

End Date

Project Description:

Initiated (CMS):	sgalloway	Date: 29-May-02 →	Accepted (IQ):		Date:
Released (IQ):		Date: →	Received (Sub):		Date:
Finished (Sub):		Date: →	QC'd (IQ):		Date:
Returned (IQ):		Date: →	pproved (CMS):		Date:

REPORT TO CONGRESS

A PROSPECTIVE PAYMENT SYSTEM FOR RADIOLOGY, ANESTHESIA AND PATHOLOGY SERVICES FURNISHED TO HOSPITAL INPATIENTS

June 1987

Otis R. Bowen, M.D.
SECRETARY OF HEALTH AND HUMAN SERVICES

ACKNOWLEDGEMENTS

Final stages of the preparation of this report were organized and supervised by C. Ross Anthony, Ph.D., Associate Administrator for Program Development, Health Care Financing Administration. The report was written in the Office of Research and Demonstrations, Health Care Financing Administration, Joseph R. Antos, Ph.D., Director. The report was drafted by Terrence Kay and Sherry Terrell, Ph.D. under the direction of Michael J. Fitzmaurice, Ph.D., Acting Director of the Office of Research (OR) and William J. Sobaski, Director of the Division of Reimbursement and Economic Studies (DRES). Barbara Wynn, Ira Burney, Bernard Patashnik, Steven Jencks, M.D., and Marilyn Newton made extensive comments and editorial contributions. Bernard Patashnik and James Menas drafted appendix A and provided material for appendix B. Deborah Williams and Charles Helbing provided statistical support.

Most of the original research findings presented in this report was conducted by Janet Mitchell, Ph.D. and Margo Rosenbach, Ph.D. at the Center for Health Economics Research. Preliminary descriptive findings from analyses recently initiated by Peter McMenamin, Ph.D. and Howard West at The Circle Inc. are reported in Appendix C.

TABLE OF CONTENTS

Section	Page
Acknowledgements	i
Table of Contents	ii
List of Tables	iii
Appendices	iv
Executive Summary	E-1
Introduction.....	1
Design of the Payment System.....	5
Extramural Research and Preliminary Findings....	24
Summary.....	38

LIST OF TABLES

Table No.	Title
1	Percentage of revenues from patients in hospitals
2	Number of non-federal physicians providing patient care, and percentage that are full time staff in hospital, 1985
3	Percentage of physicians that have financial contracts with hospitals
4	Medicare approved charges for physician services in inpatient hospitals, by specialty, 1983
5	Physician mean and median net income, 1985
6	Percentage of physicians with any Medicare patients that signed Participation Agreements and average percent of cases accepted on assignment
7	Medicare revenues as a percent of physician gross practice revenues, 1981
8	Frequency of missing anesthesia bills for surgical admissions
9	Non-RAP services billed by RAP physicians and Part B inpatient RAP services performed by non-RAP physicians
10	Average total inpatient Part B RAP charges by DRG
11	Average inpatient Part B charges for radiology, anesthesia, and pathology: surgical admissions
12	Average inpatient Part B charges for radiology, anesthesia, and pathology: medical admissions
13	Total inpatient Part B RAP charges without imputations for CRNA charges, by DRG
14	RAP DRG cost weights
15	Explanatory power of DRGs for inpatient Part B RAP charges (R-square)
16	Impact of alternative payment rates on the distribution of winning and losing hospitals
17	Distribution of per case winners and losers by urban-rural location and teaching status

APPENDICES

A. Background of paying for RAPs inpatient services.

B. Table of Radiology, Anesthesiology, and Pathology HCPCS codes.

C. Preliminary descriptive findings by Circle, Inc. for North and South Dakota, Indiana, and South Carolina.

D. Adjusted RAP charges by DRG completed by CHER for Alabama, Connecticut, Washington, and Wisconsin.

A PROSPECTIVE PAYMENT SYSTEM FOR PHYSICIAN RADIOLOGY, ANESTHESIA AND PATHOLOGY SERVICES FURNISHED TO HOSPITAL INPATIENTS

EXECUTIVE SUMMARY

Section 9344(c) of Public Law 99-509, the Omnibus Budget Reconciliation Act of 1986, directs that:

> The Secretary of Health and Human Services shall study and report to Congress by July 1, 1987, concerning the design and implementation of a prospective payment system...for radiology, anesthesia, and pathology services furnished to hospital inpatients. Such report shall include data, from a representative sample, showing, for discharges classified within each diagnosis-related group, the distribution of total reasonable charges and costs for each inpatient discharge for such services.

Under a prospective payment system for radiology, anesthesiology and pathology (RAP) physician services to hospital inpatients, Medicare would make a single payment that would cover all RAP services provided to a patient during a hospital admission. The key idea is that Medicare might control costs and encourage efficiency by paying a predetermined amount for all RAP services provided during a hospital stay. The approach has been briefly mentioned by others (Office of Technology Assessment, 1986; Congressional Budget Office, 1986) and would be conceptually similar to the current prospective payment system (PPS) for hospitals.

There are numerous options for designing and implementing a prospective

payment system for inpatient RAP services. The objective of this report is to discuss major design and implementation options and to provide descriptive findings from research currently being conducted. As background, the report includes data on total Medicare expenditures for RAP physician professional services to inpatients and characteristics of physicians that provide these services. This report also briefly reviews: how Medicare currently pays for physician RAP services to inpatients, the major approaches that could be considered for refining or reforming the current payment system, and the rationale for a prospective payment system for RAP services.

A number of important decisions would be needed to implement a prospective payment system for RAP services. The major issues discussed in this report include:

- o whether to consolidate the payment with the hospital prospective payment system or to establish an independent payment system,
- o whether to pay the hospital, the physician group if capable of distributing the payment, or the individual physician,
- o to what extent balance billing should be permitted,
- o beneficiary cost sharing,
- o what services to include in the bundled payment, and
- o quality of care implications.

Numerous additional related issues must also be addressed, such as to what extent the bundled payment should be adjusted in a manner similar to the hospital PPS, data requirements, whether the payment should be based on national, regional, or local cost weights, recognition of certified registered nurse anesthetists (CRNAs) costs, and other possible impacts on beneficiaries, physicians, and hospitals.

The Department is sponsoring extramural research to study issues related to the development of a prospective payment system for RAP physician services to inpatients. Findings from research completed thus far demonstrates that:

- Data files necessary for determining program payments can be successfully merged, compiled and processed.

- Most RAP services furnished to hospital inpatients are provided by radiologists, anesthesiologists, and pathologists. Little evidence was found of billing by RAP specialists for non-RAP activities.

- As a group, DRGs explain over half the variation in RAP charges. However, some RAP DRGs appear relatively homogeneous in their charges (e.g., many surgical DRGs) while others display wide charge variation (e.g., many medical DRGs).

- RAP DRG cost weights are fairly consistent across states. Therefore, a sample of data might be sufficient for calculating cost weights for actual program implementation.

- An analysis of potential redistributive effects of national RAP DRG payment rates showed that over one-half of hospitals would receive windfall gains of $15 or more on every admission, while about 16 percent would lose this amount on every case. The groups most likely to win and lose are rural hospitals and teaching hospitals, respectively.

Under a prospective payment system for RAP physician services to inpatients, Medicare would make a single payment that would cover all RAP services provided to a patient during a hospital admission. The key idea is that Medicare might control costs and encourage efficiency by paying a predetermined amount for all RAP services provided during a hospital stay. Paying for all physician services using DRGs has been found theoretically possible but impractical and inadvisable for nationwide implementation. However, we believe that DRG based payment for RAP services is feasible. Predetermined bundled payments would reinforce the incentives of the hospital prospective payment system to eliminate unnecessary and inappropriate services while maintaining beneficiary protection, and could yield some budgetary savings.

A PROSPECTIVE PAYMENT SYSTEM FOR PHYSICIAN RADIOLOGY, ANESTHESIA AND PATHOLOGY SERVICES FURNISHED TO HOSPITAL INPATIENTS

INTRODUCTION

Section 9344(c) of Public Law 99-509, the Omnibus Budget Reconciliation Act of 1986, directs that:

> The Secretary of Health and Human Services shall study and report to Congress by July 1, 1987, concerning the design and implementation of a prospective payment system...for radiology, anesthesia, and pathology services furnished to hospital inpatients. Such report shall include data, from a representative sample, showing, for discharges classified within each diagnosis-related group, the distribution of total reasonable charges and costs for each inpatient discharge for such services.

Under a prospective payment system for radiology, anesthesiology and pathology (RAP) physician services to hospital inpatients, Medicare would make a single payment that would cover all RAP services provided to a patient during a hospital admission. The key idea is that Medicare might control costs and encourage efficiency by paying a predetermined amount for all RAP physician services provided during a hospital stay. The approach has been briefly mentioned by others (Office of Technology Assessment, 1986; Congressional Budget Office, 1986) and would be conceptually similar to the current prospective payment system (PPS) for hospitals.

There are numerous options for designing and implementing a prospective

payment system for RAP physician services to hospital inpatients. The objective of this report is to discuss major design and implementation options and to provide descriptive findings from research currently being conducted. As background, the report includes data on total Medicare expenditures for RAP physician professional services to hospital inpatients and characteristics of physicians who provide these services. This report also briefly reviews: how Medicare currently pays for RAP physician services to hospital inpatients, the major approaches that could be considered for refining or reforming the current payment system, and the rationale for a prospective payment system for RAP services.

Current Method of Paying for RAP Physician Services to Hospital Inpatients. By law (Title XVIII of the Social Security Act (1965) and subsequent amendments), Medicare pays for Part B physician services under the customary, prevailing, and reasonable (CPR) charge system. In general, the approved charge for an individual service is the least of the physician's submitted charge, the customary charge, the prevailing charge, and an "inherently reasonable" charge. Medicare pays 80 percent of allowed charges that exceed the annual deductible. Growth in the prevailing charge is limited by a special index referred to as the Medicare Economic Index which reflects changes in physician practice costs and changes in earnings in the general economy.

Payment for professional radiology, anesthesia and pathology services generally follows the CPR methodology. Medicare's specific procedure for paying for RAP services has varied over the history of the program

and is discussed further in Appendix A.

Strategies for Reforming Medicare Physician Payments. The Administration's ultimate goal is to restrain costs through competitive consumer choices between traditional Medicare and systems to which Medicare makes capitated payments. Capitated systems are a proven method for delivering quality care efficiently. In this approach, Medicare would make payments to systems which accept a single payment, determined in advance, for all care which a beneficiary may require during a year. The intent is to include all covered services, including RAP physician services to hospital inpatients, in this single capitated payment.

The Administration has previously considered but rejected fee schedules and DRGs as preferable alternative ways to reform the way that Medicare pays for all physician services. Briefly, fee schedules would be inherently anticompetitive and would not control service volume and intensity. The Department has concluded that a series of specific refinements of the Medicare physician payment system is preferable to a fee schedule.

The Rationale for a RAP DRG payment system. DRG-based payment for all physician services to inpatients was found to be difficult to implement, complex to administer, and unpredictable in its impact on physicians and beneficiaries. However, physicians who provide RAP services have different relationships with hospitals and beneficiaries than attending physicians and surgeons. Patients rarely select the

physicians who provide RAP services and thus cannot shop for the "best buy" in terms of quality or price. Sometimes, the first cognizant contact patients have with these physicians is when they receive a bill for services.

Traditionally, these physicians maintain a hospital-oriented practice and have contractual agreements or other close relationships with the hospital to provide RAP services. RAP physicians report that 79 percent of their revenues are derived from hospital patients, a figure much higher than even for surgeons (Table 1). RAP physicians, especially pathologists, are more likely to be employed as full time hospital staff (Table 2). According to a survey by the American Medical Association, the physician specialties most likely to have financial contracts with hospitals are pathologists (78%) and radiologists (58%) (Table 3). In a special survey of anesthesia services, the Center for Health Economics Research (CHER) (1987) reported that it is common for a group of anesthesiologists to provide or supervise the provision of anesthesia services for all operations at the hospital under contract.

During 1983, approximately 15 percent of Medicare expenditures for physician services furnished to hospital inpatients was for services by RAP specialists (Table 4). Additional background information on RAP physician income, participation in the Medicare Participating Physician Program and acceptance of assignment, and dependency on Medicare for total practice revenue are included in Tables 5 through 7.

DESIGN OF THE PAYMENT SYSTEM

The major issues surrounding the design of a prospective payment system for RAP services include:

- o whether to consolidate the payment with the hospital PPS or to establish an independent payment system;

- o "whom to pay?", i.e., the hospital, the physician group if capable of distributing the payment, or the individual physician;

- o to what extent balance billing should be permitted;

- o beneficiary cost sharing;

- o what services to include in the bundled payment, such as: (1) all services furnished by RAP specialists or all RAP services regardless of who furnished the service, (2) whether complementary medical and surgical procedures should be included, and (3) whether "service windows" should be used; and

- o quality of care implications.

Numerous additional related issues must also be addressed, such as:

- o data requirements for determining payment and adjustment amounts;

- o whether payments should be based on national, regional, or local cost weights;

- o to what extent the bundled payment should be adjusted in a manner similar to the hospital PPS to account for possible payment differences between regions or types of hospitals or doctors (e.g., urban/rural, disproportionate share hospitals);

- o paying for anesthesia services furnished by CRNAs; and

- o the impact of payment changes on program administration, physicians, hospitals, and beneficiaries.

Each of these issues is summarized in the remainder of this section.

The Basic Payment System. A critical issue is whether RAP services should be classified as inpatient hospital services and subsumed into the hospital PPS or whether there should be a separate identifiable payment for RAP services.

Define RAP Services as Inpatient Hospital Service. If RAP services were redefined as inpatient hospital services, the consolidated hospital/RAP standardized amount would be calculated and relative weights would be recalibrated according to the hospital PPS methodology. Physicians furnishing RAP services would receive

payment for services directly from the hospital rather than from Medicare or the beneficiary. Thus, physicians could not balance bill patients for charges that exceed Medicare's allowed charge although they would, of course, be able to negotiate their compensation with the hospital. This type of design would be fairly easy for Medicare to administer because decisions such as updates, "whom to pay," and payment adjustments could follow the hospital PPS methodology and update schedule, although certain PPS adjustments might need to be modified (e.g., the indirect teaching adjustment). Other PPS adjustments and outlier thresholds might also need to be refined to recognize any impact the inclusion of RAP services might have on hospital operating costs.

Also, a small percentage of beneficiaries have Part A coverage but no Part B coverage. It might be necessary to have different DRG payment amounts for beneficiaries who had no Part B coverage.

A major advantage of including the RAPs payment with the hospital DRG payment is that it maximizes incentives for the efficient use of resources. Hospitals would face even stronger incentives to use resources efficiently because of the potential for larger savings. For example, the reduction of unnecessary testing would provide savings in both the technical costs of performing the test and the professional costs of interpreting the result. This approach could also provide new opportunities for the hospital to utilize the most efficient mix of services. For example, by packaging anesthesia services into the DRG payment, a hospital might determine the

clinically appropriate and efficient mix of anesthesia services.

Establish Independent RAP Payment System. The establishment of an independent payment system would not be as simple to administer as the previous option, nor would it necessarily provide as strong incentives for system efficiencies; however, it would permit more flexibility in the design of the payment system for physicians. First, the classification system and payment adjustments could be tailored specifically to cover RAP physician services. For example, individual hospital DRGs could be modified if there is a significant variation in the amount of RAP services that are provided within them (e.g. certain medical DRGs in which anesthesia services are needed for diagnostic tests that are not always performed on all patients in the DRG). Also, with sufficient lead time regional rates could be developed to reflect differences in practice patterns and provision could be made for a transition from regional to national rates. The redistributional impact of RAP DRGs might be reduced if the system reflected classifications and adjustments that specifically accounted for differences in physician resource use. Second, updates, including annual payment updates, could be accomplished independently of the hospital PPS. Separate update capability could be important if, for example, there are changes in billing practices or the provision of RAP services which would warrant recalculating the payment amount. Finally, as discussed in greater detail below, the separate system permits options to allow RAP physician groups to bill directly and receive payment from Medicare and/or the beneficiary.

This design option would require relatively more carrier and HCFA resources to implement and maintain because an independent system for both rate development and payment purposes would be required. A separate payment could potentially subject physicians to greater financial risk because there would be a smaller payment bundle from which RAP services would be paid.

"Whom to Pay?". Under the current payment system individual physicians can accept or not accept assignment for each individual service provided. Under a RAP DRG payment system, however, the payment would cover the entire bundle of RAP services provided during the hospital stay. Thus, it would be difficult to retain the current system of billing and acceptance of assignment by individual physicians even under an independent RAP payment system. Since the bundled RAP payment would cover the services of more than one physician, the administratively simplest approach would be for Medicare to pay a single entity that is capable of receiving and distributing the payment. Who would actually receive the payment is partially dependent on whether the physician group accepts assignment for the bundled payment. The entity could be the physician(s), the hospital or some other appropriate entity specified by the Secretary. An alternative approach would be to make direct payment to individual physicians based on allocations by the physician group on a case by case basis. The RAP payment would simply serve as a per case ceiling on a fee-for-service billing. This approach would be considerably more difficult to administer.

Acceptance of Assignment. The decision to accept or not accept assignment for the bundle of services would need to be made by the same entity that receives and distributes the bundled payment. The present Part B policy is that a physician or group of physicians who receive a payment directly from Medicare may not bill the patient for amounts other than deductible and coinsurance. This policy is thought to provide a strong incentive for beneficiaries to use physicians who accept assignment. If a bundled payment were made to a single entity, all physicians on a case would be required to make the same assignment election. Otherwise, Medicare would need to know how the bundled payment was allocated among the physicians on the case. Both Medicare and the patient need to know how much each physician received in order to determine the portion of any unassigned physician bill that could be balance billed to the patient.

On assigned claims, the entity receiving payment and making the assignment decision could be the hospital, the medical staff, or an organization representing the physicians furnishing RAP services. For unassigned claims, payments could also be made to the hospital, or to a physician group. However, payment to the beneficiary on unassigned claims provides an incentive for physicians to accept assignment in order to receive a guaranteed payment directly from Medicare. To avoid a significant step back from the effort to increase Medicare assignment rates, it may be preferable for Medicare to continue to pay the beneficiary on unassigned claims.

Balance Billing. Under current rules, individual physicians are permitted to bill the beneficiary on a fee-for-service basis up to their Maximum Allowable Actual Charge (MAAC) limits (OBRA, 1986). (See section 1842(j)(1)(C) of the Act, as enacted by section 9331(b)(1) of Public Law No. 99-509.) Physicians' ability to balance bill for charges above Medicare's allowed charge is thought to preserve beneficiary access to care by the beneficiary's physician of choice. However, under a prospective payment system, balance billing may need to be restricted somewhat for several important reasons:

- Fee-for-service billings would undermine the incentives in the RAP payment to control utilization of RAP services by all physicians since physicians would not be bound to a predetermined payment amount. Physicians would have an incentive to accept assignment when resource use is less than the RAP payment and to elect to balance bill whenever resource use is greater than the DRG payment.

- Beneficiaries would be exposed to additional financial liability when they require higher than average physician services since the Medicare payment would be based on average use and, unlike current Medicare payments, would not increase in proportion to physician use.

- Physicians could avoid developing a mechanism for distributing the RAP payment simply by not accepting assignment. As a result, assignment and participation rates might drop and beneficiary

liability might increase dramatically.

Alternatives to mandatory assignment or unlimited balance billing are possible. For example, it would be possible to permit a billing limit similar to the cataract surgery charge limitation enacted in OBRA (1986). (See section 1842(b)(11) (B) and (C) of the Act, as enacted by section 9334(a)(3) of Public Law No. 99-509.) Under such an approach, collective billings up to a fixed percentage (e.g., 115 percent or 125 percent of the RAP payment) would be permitted. Since the limit would be established on a collective basis, probably only a single entity should bill the patient. It should be noted that, if such an option were implemented, it is likely that some physicians would routinely bill the maximum allowable amount. Physicians whose charges under CPR routinely exceeded the new fixed limit would bill the maximum to reduce their loss of income. Many other physicians might also bill the maximum allowable since it would be difficult for them to know the exact percentage that they should bill to insure income comparable to what they previously received under CPR. This could be an important issue for beneficiaries since those who receive relatively few RAP services could be liable for a balance billing amount that might be much greater than that to which they would otherwise be subjected.

Another approach would be to establish an average actual charge limitation, such as is currently done under the MAAC limit, rather than use a case-specific upper limit. The difficulty with this alternative is that individual beneficiaries could be subjected to substantial financial liability if they required a greater than average amount of

RAP services because the charge limitation would apply to the physician's average charges; charges to individual patients would not be limited.

Beneficiary Cost Sharing. Currently, RAP services are financed and reimbursed under Part B of Medicare, which requires beneficiaries to pay a 20 percent coinsurance and an annual deductible that is currently $75. Regardless of whether the RAP payment were folded into the current hospital PPS payment or made separately, RAP services would have to continue to be financed under Part B, or the Part A trust fund (which is financed by a payroll tax) would be jeopardized. Consequently, beneficiaries must either pay a coinsurance amount based on 20 percent of the RAP payment, or some other mechanism must be established to offset the losses to either the Part B Trust Fund or to physician revenues that would occur if coinsurance were no longer imposed. This introduces questions of equity because, depending on design specifications, beneficiaries may be required to pay the standard coinsurance amount even when they received very few RAP services or none at all. This also removes the incentives of coinsurance. One of the primary reasons for having coinsurance is to control unnecessary utilization of services by making the coinsurance amount proportional to the services received by the patient.

This equity issue is especially relevant if the RAP payment were folded into the hospital payment. Medicare's payment would be the same regardless of whether or not the patient required RAP services. Thus,

unless coinsurance were applied even when no RAP services were received, either program payments would have to be increased or the entity receiving the payment would have to accept a smaller payment.

If a separate RAP payment is made, the coinsurance issue would pose less of a problem. The payment could be limited to inpatient stays where RAP services were actually furnished, and coinsurance could be set at 20 percent of the payment amount. Still, a decision might be needed as to how to handle instances where only very minimal RAP services were provided since the beneficiary could be faced with instances where the coinsurance amount could be greater than the total value of services received.

These equity issues suggest another alternative, which is to increase the Part B premium slightly to cover the cost of totally eliminating the coinsurance for RAP services. The usual argument for having coinsurance is that unnecessary utilization of services is discouraged when the beneficiary must contribute directly toward the cost of treatment. Under a bundled RAP payment system, coinsurance might not be needed to discourage unnecessary utilization. Inpatients are not likely to be highly responsive to coinsurance based on a percentage of a bundled payment because the coinsurance amount would be the same regardless of the amount of services received.

No adjustment in the deductible needs to be considered for RAP DRG payment. The deductible is unlikely to be affected by a bundled RAP payment system since patients requiring RAP services are likely to have

already received other physician services with charges that exceed the deductible amount.

Services to be Included in the Bundled Payment. There are two broad approaches to defining services to be included in the RAP payment. One approach would be to simply include all inpatient services provided by radiologists, anesthesiologists, and pathologists. As will be discussed later, anesthesia services provided by certified registered nurse anesthetists (CRNAs) might also be covered by the payment bundle. The other alternative is to select all radiology, anesthesia, and pathology services regardless of the specialty of the physician performing the procedure. This latter method might be preferable because not all RAP physician services furnished to hospital inpatients are performed by RAP specialists, and RAP specialists perform some services not strictly considered as being a RAP service. Under this approach, all physician services classified as radiology* (diagnostic, therapeutic, diagnostic ultrasound, and nuclear medicine), anesthesiology, and pathology (laboratory and anatomic and surgical pathology) might be defined as RAP services regardless of the specialty of the physician performing the procedure. (See appendix B for possible ways of identifying RAP services.) The major advantage of this is to achieve equity among different physicians who furnish the

* There is no consensus on what constitutes "radiology", i.e., whether it is limited to devices that use ionizing radiation, or also includes other technologies. Non-radiologists often use the latter.

same type of service, and to avoid incentives to substitute provision of services by non-RAP specialists that are currently provided by RAP specialists. The disadvantage is that more physicians would have to be involved in the distribution of the RAP payment. Specific RAP services could be excluded from the bundled payment and paid separately if it is determined that they are frequently performed by physicians who do not specialize in RAP services.

One important issue to be considered is whether complementary medical and surgical services frequently performed either by RAP specialists or by other medical or surgical specialists should also be included. This might include procedures such as spinal injections, CAT scans, or the insertion of a catheter for coronary angiography, all of which could potentially be performed by both RAP and non-RAP specialists. A major advantage of including these types of complementary services is that it eliminates the opportunity for RAP specialists to increase the volume of billings for them. The disadvantage is that it would somewhat complicate the payment system by affecting additional physicians for a relatively small volume of services.

Quality of Care Implications. Quality of care is a concern whenever payment changes are made to contain the rate of cost increases or to provide incentives for efficient practice. Bundling payments creates incentives for efficiency but stimulates concern over whether all needed services will be furnished. Because physicians are not directly affected by the hospital PPS, physicians may now function as a guard

against inappropriate reductions in inpatient services. Including some physicians in the PPS payment may reduce this role, especially if the payment includes all RAP services regardless of specialty, since non-RAP specialists can potentially order and then personally provide RAP services (e.g., x-ray interpretation). Restriction of billing for individual RAP services might reduce the willingness of non-RAP specialists to continue to perform RAP services. On the other hand, depending on how the single payment was distributed among physicians, there could be an incentive for individual physicians to provide unnecessary services in order to obtain the largest possible share of the single payment. A separate RAP payment would presumably be more likely to maintain quality of care, especially if the payment was made to a physician group, because it would allocate a specific payment amount for RAP services by physicians. Inappropriate substitution or reduction of nonphysician services might thus be avoided. On the other hand, this might encourage payment for more expensive physician inputs when inputs of capital or less intensely trained personnel are available, appropriate, and of equal quality.

Service Windows. Another issue is whether to include RAP services that immediately precede or follow a hospital admission ("service windows") in the standardized RAP payment. This issue should only affect radiology since almost all anesthesia and many pathology services are provided at the time of surgery. Without service windows, physicians would have a strong incentive to increase their Medicare payments by shifting place of treatment to other sites before or after the period

of hospital treatment. However, including service windows in the payment complicates claims processing. While a shift in the location where services are provided may increase Medicare expenditures for RAP services in the short run, it might eventually reduce total program expenditures to the extent that less costly treatment settings are used. In addition, because of PPS incentives already in effect, most RAP services that can move out of the hospital probably already have been shifted. In the 1984-1985 Physicians' Practice Costs and Income Survey (PPCIS), 85 percent of RAP physicians reported that they had been encouraged to test on an outpatient basis (Rosenbach and Cromwell, 1985).

Since service windows would be complex to administer, it may be advisable to simply monitor unbundling to determine if and to what extent it actually occurs. If undesirable unbundling occurs, the RAP payment can be adjusted to account for the increase in billings for services immediately preceding or following an admission. This approach would be analogous to the admissions pattern monitoring which was performed to monitor anticipated hospital incentives under PPS to increase admissions. Rather than create a cumbersome system to control increases in admissions, the Department chose to closely monitor the situation and adopt an adjustment later if necessary. It proved not to be.

Additional Design Issues to be Considered. There are a number of additional issues to be considered when designing a bundled RAP payment

system. The major ones include:

- o data requirements for determining payment amounts and performing subsequent updates,
- o whether payment should be based on national, regional, or local cost weights,
- o adjustments to be made to the basic standardized payment amount,
- o paying for anesthesia services performed by CRNAs, and
- o other impacts.

Data Needed to Implement and Update the System. Regardless of the basic design options selected, a merged Part A and Part B data file must be created at the hospital admission level to determine the RAP payment amount. The Health Care Financing Administration (HCFA) already has in central office 100 percent Part A hospital claims data, but acquiring and merging appropriate Part B data are more problematic. At present there are three major options for merging Part B data. The first way would be to use the 5 percent Part B Medicare Annual Data (BMAD) beneficiary files that HCFA already collects from carriers to develop payment amounts for the most frequent DRGs. Another approach would be to use 100 percent Part B data files from selected carriers representative of the nation. Another possibility is

to combine low volume DRGs with the most analogous higher volume DRG. Given enough time and resources, a fourth potential approach that could be used would be to collect 100 percent Part B files from all carriers. Data needs are ultimately dependent upon the design options and implementation approaches that would be studied and ultimately implemented.

Carrier-specific, Regional, or National Payments. There are diverse views concerning whether Medicare payment for physician services should continue the practice of acknowledging carrier-defined localities for physician payment determinations or whether more uniform determinations are preferable. An added complexity is the use of standard metropolitan statistical areas for determining urban hospital prospective payments, and all other state data for determining rural hospital prospective payments.

The decision to base payments on carrier, regional, or national areas is likely to have a strong effect on the number of hospitals (or other entities receiving the payment) that would have large gains and losses from a bundled RAP payment. To avoid extreme reallocations of physician payment funds between states or localities, it might be desirable to implement the payment system using a transitional approach in which payments would at first be locality or carrier specific but would then move toward a national payment amount. However, securing, processing, and analyzing 100 percent Part B claims files to support a transitional approach would require significant amounts of time and

resources.

Adjustments. As has been done under the hospital PPS, it might be desirable to consider adjustments that should be made to the standard RAP payment amount to account for differences among different geographic areas or practitioners providing services. An obvious adjustment that might be considered is to account for differences in cost of practice by geographic area. This issue would be an important consideration when deciding whether payments should be made at a national, regional, or even at some lower level. Urban/rural areas may also have different payment levels. Perhaps the PPS wage index might serve as an interim adjustor to account for differences in practice costs within the geographic area until appropriate indices of physician geographic practice costs has been completed, such as those mandated by section 1845(e)(4) of the Social Security Act, as enacted by section 9331(e) of Public Law 99-509, OBRA of 1986.

Adjustments for cases that use extremely large amounts of RAP resources ("outliers") may also be desirable. If the RAP payment were folded into the hospital PPS payment, then outlier thresholds might be recalculated to account for any impact the inclusion of RAP services may have. If a separate RAP payment were made, then a new outlier policy specific to RAP services might be needed.

Additional adjustors that might be considered are suggested by the hospital PPS. These include hospitals that treat large proportions of

poor patients ("disproportionate share hospitals"), teaching hospitals, sole community hospitals, regional referral centers, cancer centers, and rural referral centers. Payment decisions for services provided in excluded hospital units would also be necessary.

Finally, it may be desirable to build in differential payments to meet specific policy objectives. For example, to encourage physicians to sign participation agreements under the current fee-for-service payment system, the prevailing charge for nonparticipating physicians is limited to 96 percent of the prevailing charges recognized for participating physicians (section 1842 (b)(4)(A)(iv) of the Social Security Act, as enacted by OBRA 1986, section 9331(a)). This incentive could be maintained under a bundled RAP payment by paying nonparticipating medical staffs a reduced amount such as 96 percent of the payment provided to participating RAP medical staffs.

Paying for Anesthesia Services by CRNAs. Regardless of the basic RAP design option selected, anesthesia services provided by CRNAs must be recognized to insure that any substitution of anesthesia services between CRNAs and anesthesiologists is appropriate. Under current law, anesthesia services are paid under both Part A and Part B of the Medicare program. Part A covers services furnished by nonphysician anesthetists who are employed by or independently contract with the hospital. Such payments are made on the basis of reasonable cost principles to excluded hospitals and are treated as "pass through" costs carved out from the DRG payment for hospitals governed by

Medicare PPS (section 1886(d)(5)(E) of the Social Security Act). On the other hand, anesthesiologists bill on a reasonable charge basis for their anesthetist employee(s), subject to the Part B reasonable charge requirements.

OBRA 1986 (Section 9320) ends CRNA pass through payments of costs to hospitals and permits direct billing of these services beginning January 1, 1989. The direct billing option does not preclude hospital employee arrangements or continued employee relationships with anesthesiologists or other nonhospital group practices. However, direct billing by CRNAs for inpatient services would be inappropriate under a RAP DRG payment system. Currently, payments for services by CRNAs employed by anesthesiolgists are included in the anesthesiologist's payment and would be included in the RAP payment amount because it is not possible to determine what portion of the bill is for the anesthesiologist's services and what portion is for the services of the CRNA employed by the anesthesiologist. Therefore, under direct billing by CRNAs, Medicare would make duplicate payments for CRNA services to the extent that anesthesia services billed directly for by CRNAs were already included in the RAP payment. Moreover, to permit direct billing by CRNAs under a RAP payment system could provide an inappropriate incentive for substitution of CRNA services for services of anesthesiologists because the CRNA payment would be in addition to the RAP payment.

If RAP services are redefined as inpatient hospital services, all CRNA services would be considered hospital costs like other patient services

in the DRG rates. An actuarial estimate of the pass through costs could be included in the consolidated hospital/RAP standardized amount and the weights recalibrated. Payment would be folded into the existing DRG specific hospital rate and the hospital would be responsible for paying all practitioners.

If an independent RAP payment option is selected, CRNA services could be treated for billing purposes in a manner consistent with the treatment of anesthesiologists.

Other Impacts. Alternative RAP payment options have differential impacts on Medicare program administration, physicians, hospitals, beneficiaries, and other health care staff which should be considered in payment design. For example, as previously mentioned, establishment of an independent RAP payment may require greater resources to implement and maintain but would allow the flexibility to design a system with payment adjustments, update factors, assignment, and billing options specifically tailored to RAP services.

EXTRAMURAL RESEARCH AND PRELIMINARY FINDINGS

The Department is sponsoring two external research projects to study issues related to the development of a prospective payment system for inpatient RAP services. Janet Mitchell, Ph.D. and Margo Rosenbach, Ph.D. at the Center for Health Economics (CHER) are conducting RAP

analyses using a Part A/B merged data file from four States: Alabama, Connecticut, Washington and Wisconsin. The remainder of this report primarily summarizes their preliminary findings. Peter McMenamin, Ph.D. and Howard West at The Circle Inc. have recently begun similar analyses using data files from North and South Dakota, South Carolina, and Indiana. Their preliminary descriptive findings are reported in Appendix C. The Circle findings in four additional States are consistent with and support the conclusions drawn by CHER based on analysis of their four States.

DATA SOURCES AND METHODS

Definition of RAP Services

As discussed previously, one major decision that would be needed prior to implementing a RAP prospective payment system would be to select services to be covered by the bundled payment. For the purpose of their preliminary analysis, Mitchell and Rosenbach defined covered services on the basis of procedure codes, regardless of the specialty of the physician providing the service. Radiology services included all diagnostic radiology, diagnostic ultrasound, therapeutic radiology, and nuclear medicine procedures, encompassing all HCPCS 70000 series codes plus those echocardiography codes listed in the 90000 series. Anesthesia services were defined as all procedures classified as "type of service" anesthesia, including bills for special circumstances (e.g., anesthesia for patient of extreme age). Specifically excluded were nerve blocks and injection procedures performed for pain management. Pathology services included all laboratory and pathology

services in the 80000 series of HCPCS. Since routine lab tests performed on inpatients are considered hospital services, Part B pathology services consist primarily of surgical pathology.

Data Bases

Extensive resources are required to create the merged Part A and B data files needed to conduct analyses in support of a RAP payment plan. For their work, Mitchell and Rosenbach selected all Part A and B claims from four States: Alabama, Connecticut, Washington, and Wisconsin. These four States represent a range of areas with varying physician densities, assignment and participation rates, and four major census regions. Hospital episodes were constructed from 1984 Medicare Part A hospital claims obtained from HCFA. The physician claims were obtained directly from the Part B carriers and then merged with the records from the hospital file.

Admissions with no Part B claims (including admissions to hospitals associated with health maintenance organizations) were excluded. Also excluded were admissions to hospitals exempt from the hospital PPS. A total of over 684,000 hospital episodes were available for analysis. Inpatient Part B RAP charges were defined as the series of reasonable charges (including patient copayments for deductibles and coinsurance) for all RAP services provided during the hospital stay.

Missing Anesthesia Bills

After merging the Part A and Part B bills, Mitchell and Rosenbach examined surgical DRG admissions that contained no matching Part B anesthesia claims. They found that some hospitals had no Part B anesthesia bills, due to Medicare payment under Part A for services of CRNAs who are employed by hospitals. In Alabama, for example, 72 of 128 hospitals had no Part B anesthesia bills for surgical admissions, representing 14 percent of admissions (Table 8). However, missing anesthesia bills are not limited to CRNA-only hospitals. As shown in Table 8, the proportion of cases with missing claims in other hospitals ranged from 12 percent in Washington to more than 20 percent in Wisconsin and Connecticut. About four percent of anesthesia bills may be missing due to lost claims, coding errors, and unsubmitted bills. (This is based on the proportion of surgical cases with no surgeon's bill.) In addition, some surgical admissions — notably lens procedures and permanent pacemaker implants — may not have separate anesthesia bills where the surgeon performs the anesthesia. However, based on initial discussions with carriers and intermediaries, CHER believes the majority of these cases were performed by a CRNA without an anesthesiologist present (e.g., supervision of CRNA by the surgeon who did not submit a separate bill for supervision). It should be noted that this CRNA situation might also result in understatement of medical DRG costs that require anesthesia services for diagnostic tests.

Because the Part A cost pass-through for CRNA services ends in 1989 at

which time CRNAs will be allowed to bill under Part B, Mitchell and Rosenbach imputed anesthesia charges for CRNA services. Mean Part B anesthesia charges by DRG were computed for each reasonable charge locality. CRNA charges were estimated to be a percent of the mean (i.e., anesthesiologists' charges), consistent with the reimbursement policy of some Blue Shield plans and State Medicaid agencies. They plan to investigate the reasons behind the missing claims by holding further discussions with the fiscal intermediaries and carriers, and if necessary, the hospitals. In implementation of a RAP payment system, it is likely that actual CRNA payments would be used.

PRELIMINARY RESULTS

Who Provides RAP Services?

In their four state analysis, CHER found that most inpatient RAP services are currently provided by radiologists, anesthesiologists, and pathologists (Table 9). The major exception is anesthesia provided by hospital-employed nurse anesthetists. In addition, certain radiologic services are frequently provided by non-radiologists. For example, CHER found that echocardiography and ultrasound, which together represented about 10 percent of inpatient radiology charges, are often performed by physicians in specialties such as cardiology, internal medicine, and ophthalmology. Finally, pathologists accounted for the bulk of Part B pathology bills except in the state of Connecticut where radiologists accounted for a third of Part B pathology charges.

However, most of these bills were from a single radiology practice that was billing for a variety of radioimmunoassay tests.

Little evidence was found of extensive billing by RAP specialists for non-RAP activities; less than 5 percent of charges billed by RAP physicians were for non-RAP services. Where such activity did occur, it was generally for hospital visits and consultations, right heart catheterizations (by anesthesiologists), and Doppler peripheral flow studies (by radiologists).

What Do Inpatient RAP Services Cost?

Table 10 presents average Part B charges for inpatient RAP services for 20 high volume medical and surgical DRGs. These particular DRGs represent almost 30 percent of total admissions and were selected in order to include a disproportionate number of DRGs expected to have above average RAP charges (e.g., surgical DRGs with their attendant anesthesia bills and cancer DRGs with potentially above average charges for diagnostic testing and radiation therapy services). In parentheses next to each RAP DRG average is its coefficient of variation (CV), which is defined as the standard deviation divided by the mean. The CV provides a standardized measure for comparing variation across groups with different means. Lower CVs indicate less charge variability within DRG. All dollars in the RAP DRG tables in this report are adjusted for geographic cost differences, using the PPS hospital wage index. A RAP payment program might want to use a different method for

adjusting for geographic cost differences.

The Part B RAP bill ranged from about $50 to over $1,000 per admission, depending on the DRG. Not surprisingly, surgical DRG cases have considerably higher RAP bills compared with medical admissions, about three to four times higher on average (based on averaging across all admissions and all DRGs). Cancer patients also incurred somewhat higher RAP bills than do those with nonmalignant disease (compare DRGs 82, 172, and 403 with DRGs 89, 127, and 182).

More important than the average charge level is the variation around that mean, for this indicates the likelihood that a DRG-based case payment will in fact reflect actual RAP charges. What is immediately striking from Table 10 is the difference in magnitude of CVs between medical and surgical RAP DRGs. Surgical DRGs are relatively homogeneous with CVs of 0.50 or lower. This occurs primarily because of the nondiscretionary nature of anesthesia; almost all major surgical cases require this input, with price alone contributing to its variation. By contrast, medical DRGs vary more with CVs often exceeding 1.0 (indicating that the standard deviation exceeded the mean allowed charge). Here, there are fewer nondiscretionary inputs and patients receive varying amounts of Part B RAP services and some none at all. Consider heart failure and shock (DRG 127), for example. While 85 percent of cases received at least some radiology, only 5 percent received pathology services, and a mere 1 percent any anesthesia. (Even in a medical DRG, there may be some anesthesia charges associated with diagnostic surgical procedures.) One out of

every seven patients in DRG 127 received no Part B RAP services of any description. (They did receive other Part B physician services during their hospital stay, however, so noneligibility for Part B cannot explain this.) Adjusted charges for RAP services for all DRGs in the four states analyzed are listed in appendix D.

Decomposition of the RAP Bill

The relative mix of RAP services within surgical and medical cases was also examined. Table 11 presents average allowed charges for radiology, anesthesia, and pathology services, respectively, for each surgical DRG. (Due to rounding, the sum of these three components will not always equal the total RAP charges shown on Table 10.) Anesthesia accounts for the largest share of RAP charges for surgical care, as expected, ranging from 95 percent in the case of surgery on generally otherwise well patients (e.g., lens procedures and hernia repairs) to only 60-70 percent in sicker, more complicated patients (e.g., extracranial vascular procedures, coronary artery bypass graft surgery, and major bowel procedures). Radiology services account for the majority of the remaining RAP charges.

Table 12 provides a similar breakdown for medical DRG admissions. For these cases, the RAP bill is almost totally for radiology services. There are far fewer pathology charges for medical DRGs than for surgical DRGs since many pathology services, such as the examination of abnormal tissues, generally accompany major surgery (especially for

cancer).

Effect of Imputation of CRNA Costs

As mentioned earlier, CRNA charges for anesthesia services were imputed. Table 13 displays the results for surgical DRGs if no imputation had been made. A comparison of imputed results in Table 10 with the nonimputed results in Table 13 shows that, as expected, mean RAP charges would be lower and CVs would be significantly higher for some DRGs if CRNA charges were not imputed. For example, the mean RAP charge for DRG 209 (major joint procedures) in Alabama dropped from $318 to $282 whereas the CV increased from 0.42 to 0.55.

Part B RAP Cost Weights

Table 14 illustrates cost weights for RAP DRGs. Each set of weights has been standardized by the average cost per case across all 470 DRGs for each state. RAP DRG cost weights are quite consistent across States, suggesting that a sample of data might be sufficient for calculating cost weights prior to program implementation. The simple correlation (Pearson's r) between pairs of States for all DRGs is high, in the 0.95 to 0.96 range (maximum value for this correlation statistic is 1.0).

Explanatory Power of DRGs

As shown earlier, some RAP DRGs appeared relatively homogeneous in their charges while others displayed wide charge variation. The extent that DRGs as a group explain the variation in Part B RAP charges was also examined. Table 15 summarizes the explained variation for all DRGs (as measured by the R-square), based on analysis of variance. DRGs account for well over one-half of the variation (53-57 percent) in inpatient RAP bills. Virtually all of the explained variation in total RAP Part B charges is due to the surgical DRGs. Analyses of variance conducted on the surgical cases alone yielded R-squares ranging from 0.42 to 0.48, while in comparable analyses for medical admissions, DRGs explained only a small (9-11) percent of the variation. These findings are similar to those found earlier by Mitchell (1985) in the case of both physician DRGs (total inpatient Part B charges) and hospital costs. Thus the lack of explanatory power for medical cases should be attributed to the DRG system itself and not to any special characteristics of RAP services. (Refining the DRG system remains an ongoing, high priority HCFA activity.)

SIMULATED REDISTRIBUTIVE EFFECTS ACROSS HOSPITALS

A bundled payment approach such as RAP DRGs is based on an assumption that some cases will require more RAP services and some cases will require less, but that on average the DRG payment is reasonable for the services required. The average gain or loss per admission would be

zero because payments would be based on average allowed charges. Because admissions are unequally distributed across hospitals, however, the average gain (or loss) per hospital may deviate substantially from zero. Thus, the implementation of a RAP DRG payment may benefit some hospitals (or other entity receiving the payment) while adversely affecting others.

To simulate potential redistributive effects of RAP DRGs on hospitals, CHER created an analytic file with the hospital as the unit of observation. This aggregation resulted in a total of 407 hospitals representing the universe of all short-term general hospital treating Medicare patients in four states in 1984. All charges were first adjusted for geographic cost of living differences, using the PPS wage index. Winners and losers were then simulated by comparing actual allowed charges for each case in a given DRG with the overall DRG average and then cumulating gains and losses across all cases and all DRGs to arrive at a total gain (or loss).

National RAP DRG payment rates were proxied using a pooled, four state average. As an alternative to a national rate, CHER also studied the effect of basing the payment on either state or reasonable charge locality rates. For these analyses, no attempt was made to account for the numerous payment adjustments which could be implemented such as those currently used in hospital PPS which were discussed earlier. It is important to note that actual redistributions would depend upon which adjustments where included in the design of the RAP DRG payment system. Inclusion of these adjustments could dramatically change

hospital winner/loser status. These analyses, however, provide an indication of the direction of the effects that a case based RAP payment would have on hospitals or other entity receiving the payment.

Distribution of Per Case Gains and Losses

Under a RAP DRG based payment using "simulated" national payment rates, over one-half of the hospitals in the four states CHER analyzed would receive average windfall gains of $15 or more on every admission (Table 16). Almost one-third (31%) of hospitals would "break-even" (i.e., receive within $14 of what fee-for-service charges had been). A relatively small number of hospitals would lose money (15.9%), but a substantial number of these would incur losses greater than $25 on every patient they admit.

The use of state averages to calculate DRG payment rates had only a minimal effect on the distribution: slightly more winners and slightly fewer losers. Presumably, the difference in outcomes between national and state rates would have been larger had the simulated "national" rates been based on a fifty rather than four state average. In contrast, the use of Medicare reasonable charge localities to set rates greatly increased the number of "break-even" hospitals, reducing both the number of big losers and big winners (particularly the latter). These results are expected because there is apt to be greater homogeneity of practice patterns within the smaller areas encompassed by a reasonable charge locality.

Redistributive Effects by Hospital Type

Although a majority of hospitals in the four states would be winners, there would be systematic differences in redistributive effects by hospital type. On average, urban and rural hospitals would both make money under RAP DRGs, but the average gains per case would be 3 1/2 times larger for rural hospitals (Table 17). Two-thirds of rural hospitals (66.2%) would be winners, and very few would lose money (only 6.5%). By contrast, one-fourth of all urban hospitals would experience a net loss on their admissions. The really big losers, however, would be teaching hospitals. Almost one-half of all teaching hospitals (41.1%) would lose $15 or more on every case, compared with only about 9 percent of non-teaching hospitals.

In an attempt to determine possible explanations for these differential results by type of hospital, CHER performed regression analyses that attempted to explain variation in per admission Part B charges and average gains and losses. Their results suggest that rural hospitals would make money, largely for three reasons:

(1) Casemix. Rural hospitals admit somewhat less seriously ill patients within-DRG (e.g. fewer PPS outliers, fewer transfer patients).

(2) Available technology. As smaller hospitals, they offer less

technology. Without CAT scanners available, for example, radiologists can not submit bills for these tests.

(3) Practice patterns. Rural hospitals often employ CRNAs to administer anesthesia, and these practitioners are less expensive than anesthesiologists.

Teaching hospitals would lose money under RAP DRG case payment, even after adjusting for variables that measure differences in casemix severity (e.g., outliers, transfers, deaths), and other variables such as bedsize and CRNA use. One obvious explanation is the extra diagnostic testing performed for teaching purposes, an added cost recognized by Medicare under the hospital PPS but not taken into account in the simulations.

In order to better understand the sources of gain or loss, CHER decomposed the RAP charge differential between winning and losing hospitals for two DRGs, one medical and one surgical:

- DRG 89: pneumonia with complicating conditions and/or age 70+ (n = 18,700); and

- DRG 336: transurethral resection of the prostate (TURP) with complicating conditions and/or age 70+ (n = 10,229).

These DRGs were selected by CHER because they are high volume groups under Medicare, and because they are frequently admitted to both

teaching and non-teaching, urban and rural, hospitals.

CHER reported that the propensity to order x-rays in the first place, and then to order more of them, accounted for almost half of the TURP charge differential and almost all of the pneumonia charge differential. The remaining differential was due primarily to differences in anesthesia provider mix (losing hospitals tend to use anesthesiologists rather than CRNAs) and to the propensity to order lab tests. Higher charge levels per service accounted for relatively little of the total charge differential between winning and losing hospitals.

SUMMARY

Under a prospective payment system for RAP inpatient services, Medicare would make a single payment that would cover all RAP services provided to a patient during a hospital admission. The key idea is that Medicare might control costs and encourage efficiency by paying a predetermined amount for all RAP services provided during a hospital stay. Paying for all physician services using DRGs has been found theoretically possible but impractical for nationwide implementation. However, we believe that DRG based payment for RAP services is feasible.

REFERENCES

AMA: Physician Characteristics and Distribution in the U.S., American Medical Association, Chicago. 1986 Edition

AMA: SMS Report. 1(2), American Medical Association, Chicago. Feb. 1982

AMA: Socioeconomic Characteristics of Medical Practice, American Medical Association, Chicago. 1986 Edition

Burney, I. and Schieber, G.: Medicare Physicians' Services: The Composition of Spending and Assignment Rates. Health Care Financing Review. 7(1):81-96, HCFA Pub. No. 03206. Office of Research and Demonstrations, Health Care Financing Administration. Washington, D.C., U.S. Government Printing Office, Fall 1985.

CBO: Physician Reimbursement Under Medicare: Options for Change. Congressional Budget Office, Washington, D.C., Apr. 1986.

Mitchell, J.B., Calore, K.A., Cromwell, J., et al.: Physician DRGs: What Do They Look Like and How Would They Work? Needham, Mass. Center for Health Economics Research, Feb. 25, 1985.

Mitchell, J.B. and Rosenbach, M.L.: DRG-Based Payment for Radiology, Anesthesia, and Pathology Services. (Draft Report of Preliminary Results). Needham, Mass. Center for Health Economics Research, March 1987

OTA: Payment for Physician Services: Strategies for Medicare. Office of Technology Assessment, Washington, D.C., Feb. 1986

Owens, A.: How Much of Your Money Comes From Third Parties? Medical Economics. Apr. 4, 1983.

PPCIS: Physicians' Practice Costs and Income Survey. Conducted by NORC under contract to the Health Care Financing Administration, 1984-1985.

Rosenbach, M.L., and Cromwell, J.: Physicians' Perceptions about the Short-run Impact of Medicare's Prospective Payment System, Final Report, HCFA Contract No. 500-83-0025, Needham, Mass. Health Economics Research Inc., Nov. 14, 1985

Rosenbach, M.L., Hurdle, S., and Cromwell, J.: An Analysis of Medicare's Physician Participation Agreement Program, Final Report, HCFA Contract No. 500-83-0025, Needham, Mass. Health Economics Research Inc., Oct. 29, 1985

Rosenbach, M.L., Cromwell, J., and Keller, J.: Payment Options for Non-Physician Anesthetists Under Medicare's Prospective Payment System: Draft Final Report. Needham, Mass. Center for Health Economics Research, Jan. 1987

Table 1

Percentage of revenues from patients in hospitals

Specialty	Percent
RAP	79.4
Radiology	69.8
Anesthesiology	89.7
Pathology	79.5
General/family practice	21.8
Medical specialties	34.0
Surgical specialties	55.7

Source: Physicians' Practice Costs and Income Survey, 1984-1985

Table 2

Number of non-federal physicians providing patient care, and percentage that are full time staff in hospital, 1985

Specialty	Number providing patient care	Percent that are full time hospital staff
RAPs	47,708	14.4
Radiology	21,340	11.2
Anesthesiology	16,853	9.3
Pathology	9,515	26.1
General/family practice	56,284	4.3
Medical specialties	106,927	7.6
Surgical specialties	98,854	4.0

Note: Excludes residents.

Source: Compiled from Table 6, Physician Characteristics and Distribution in the U.S., American Medical Association, 1986

Table 3

Percentage of physicians that have financial contracts with hospitals

Specialty	Percent with financial arrangements
RAP	52
Radiology	58
Anesthesiology	27
Pathology	78
General/family practice	14
Internal medicine	36
Surgery	11

Note: Based on a survey of non-federal patient care physicians, excluding residents.

Source: Compiled from Table 1, SMS Report, 1(2), American Medical Association, Feb. 1982

Table 4

Medicare approved charges for physician services in inpatient hospitals, by specialty, 1983

Specialty	Approved charges ($billions)	Percent of total
Total	9.876	100.0
RAPs	1.501	15.2
Radiology*	0.632	6.4
Anesthesiology	0.741	7.5
Pathology*	0.128	1.3
General/family practice	0.612	6.2
Medical specialties	2.895	29.3
Surgical specialties	3.960	40.1
Other	0.908	9.2

* Approved charges for radiologists and pathologists are understated because data exclude combined billings on 1453 billing forms and billings from 1554's for services rendered prior to October 1, 1983. The services of radiologists and pathologists were frequently billed on these two forms.

Source: Compiled from data in Burney and Schieber, Fall 1985, Health Care Financing Review.

Table 5

Physician mean and median net income, 1985

Specialty	Mean ($)	Median ($)
RAPs		
Radiology	150,800	150,000
Anesthesiology	140,200	128,000
Pathology	127,000	120,000
General/family practice	77,900	70,000
Internal medicine	101,000	89,000
Surgery	155,400	130,000

Source: Tables 38 and 41, Socioeconomic Characteristics of Medical Practice, American Medical Association, 1986

Table 6

Percentage of physicians with any Medicare patients that signed Participation Agreements and average percent of cases accepted on assignment

Specialty	Participation rate	Average Percent of Cases Accepted on Assignment
RAPs		
Radiology	44.0	63.8
Anesthesiology	20.2	39.0
Pathology	48.8	59.1
All physicians	33.2	51.3

Note: Data are for self-employed physicians.

Source: Tables 1-1 and 3-4, Rosenbach, Hurdle, and Cromwell, An Analysis of Medicare's Physician Participation Agreement Program, Health Economics Research, Inc. Oct. 29, 1985

Table 7

Medicare revenues as a percent of
physician gross practice revenues, 1981

Specialty	Percent
RAPs	
Radiology	28
Anesthesiology	22
Pathology	21
Other selected specialties	
Thoracic surgery	35
Internal medicine	29
General surgery	25
Ophthalmology	24
Neurology	24
General practice	18
Neurological surgery	18
Orthopedic surgery	17
Family Practice	15
Plastic Surgery	12
Psychiatry	6
Obstetrics/gynecology	5
Pediatrics	1

Source: Arthur Owens, "How much of your money comes from third parties?", Medical Economics, April 4, 1983.
Copyright (c) 1983 and published by Medical Economics Company, Inc. at Oradell, N.J. 07649.
Reprinted by permission.

TABLE 8

FREQUENCY OF MISSING ANESTHESIA BILLS FOR SURGICAL ADMISSIONS

	Alabama	Connecticut	Washington	Wisconsin
Total N of Hospitals	128	34	102	139
N of Hospitals With No Anesthesia Bills (CRNA-Only Hospitals)	72	5	33	66
Percent of Surgical Cases Treated in CRNA-Only Hospitals	13.8%	8.7%	2.7%	10.5%
Percent of Surgical Cases with No Anesthesia Bills--All Other Hospitals	14.7%	12.8%	12.0%	21.6%
Percent of Surgical Cases with No Anesthesia Bills--Total	28.5%	21.5%	14.7%	32.1%

Source: Mitchell and Rosenbach (1987) using Medicare Part A and Part B Claims, 1984

TABLE 9

NON-RAP SERVICES BILLED BY RAP PHYSICIANS AND PART B INPATIENT RAP SERVICES PERFORMED BY NON-RAP PHYSICIANS

	Alabama	Connecticut	Washington	Wisconsin
NON-RAP SERVICES BILLED BY RAP PHYSICIANS:				
Non-Radiology Procedures as Percent of All Radiologists' Bills	1.0%	3.7%	2.1%	1.8%
Non-Anesthesia Procedures as Percent of All Anesthesiologists' Bills	4.9	6.6	4.1	2.9
Non-Pathology Procedures as Percent of All Pathologists' Bills	3.2	26.9	3.6	2.8
PART B INPATIENT RAP SERVICES PERFORMED BY NON-RAP PHYSICIANS:				
Percent of Part B Radiology Charges Billed by Non-Radiologists	8.1%	3.5%	5.3%	4.8%
Percent of Part B Anesthesia Charges Billed by Non-Anesthesiologists	20.1	16.8	11.8	22.1
Percent of Part B Pathology Charges Billed by Non-Pathologists	4.5	41.4	3.8	5.4

Source: Mitchell and Rosenbach (1987) using Medicare Part A and Part B claims, 1984.

TABLE 10

AVERAGE TOTAL INPATIENT PART B RAP CHARGES BY DRG (coefficients of variation in parentheses)

DRG		ALABAMA		CONNECTICUT		WASHINGTON		WISCONSIN	
5	Extracranial Vascular Procs.	$627	(0.43)	$610	(0.53)	$512	(0.48)	$676	(0.47)
14	Specific Cerebrovascular Dis.	135	(1.18)	115	(1.26)	108	(1.39)	112	(1.34)
15	Transient Ischemic Attacks	173	(1.10)	100	(1.44)	155	(1.33)	130	(1.30)
39	Lens Procedures	206	(0.24)	214	(0.23)	222	(0.22)	220	(0.27)
82	Respiratory Neoplasms	185	(1.27)	168	(1.22)	165	(1.43)	182	(1.41)
89	Pneumonia	63	(1.38)	60	(1.39)	47	(1.67)	54	(1.44)
107	Coronary Bypass w/o Cardiac Cath.	776	(0.32)	927	(0.32)	833	(0.33)	1,194	(0.38)
116	Permanent Pacemaker Implant	277	(0.43)	250	(0.51)	240	(0.54)	279	(0.44)
121	Acute Myocardial Infarction,Disc.Alive	69	(1.23)	84	(1.32)	65	(1.32)	73	(1.23)
125	Circ. Disorders w/ Cardiac Cath.	106	(1.33)	64	(1.64)	100	(1.19)	100	(1.55)
127	Heart Failure and Shock	58	(1.36)	59	(1.38)	46	(1.55)	52	(1.53)
148	Major Small and Large Bowel Procs	440	(0.53)	426	(0.56)	459	(0.48)	468	(0.50)
161	Inguinal and Femoral Hernia Procs	198	(0.46)	180	(0.42)	194	(0.33)	204	(0.44)
172	Digestive Malignancy	132	(1.41)	144	(1.51)	108	(1.51)	105	(1.49)
182	Gastroenteritis and Misc. Dis.	88	(1.04)	72	(1.27)	59	(1.30)	74	(1.15)
197	Cholecystectomy w/o CDE	329	(0.45)	330	(0.43)	364	(0.44)	374	(0.44)
209	Major Joint Procedures	318	(0.42)	369	(0.36)	359	(0.34)	366	(0.40)
210	Other Hip and Femur Procs	299	(0.43)	300	(0.42)	301	(0.39)	327	(0.42)
336	Transurethral Prostatectomy	274	(0.45)	231	(0.46)	254	(0.44)	265	(0.49)
403	Lymphoma or Leukemia	164	(1.28)	136	(1.34)	134	(1.47)	156	(1.44)

Note: All dollars have been adjusted for geographic cost differences, using the PPS wage index. Includes imputed anesthesia charges for CRNA services (see text).

Source: Mitchell and Rosenbach (1987) using Medicare Part A and B claims, 1984.

TABLE 11

AVERAGE INPATIENT PART B CHARGES FOR RADIOLOGY, ANESTHESIA, AND PATHOLOGY: SURGICAL ADMISSIONS

DRG		ALABAMA			CONNECTICUT			WASHINGTON			WISCONSIN		
		Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.
5	Extracranial Vascular Procs.	$350	$250	$26	$259	$350	$2	$140	$351	$21	$234	$423	$20
39	Lens Procedures	8	194	4	9	204	*	3	216	4	12	204	5
107	Coronary Bypass without Cardiac Cath.	116	656	4	180	743	4	111	714	8	163	1,017	14
116	Permanent Pacemaker Implant without AMI or CHF	88	186	2	65	183	2	53	186	1	71	206	2
148	Major Small and Large Bowel Procs, Age 70+ and/or C.C.	124	261	55	118	302	5	86	301	72	108	310	49
161	Inguinal and Femoral Hernia Procs, Age 70+ and/or C.C.	33	143	22	20	159	1	10	172	13	21	170	13
197	Cholecystectomy without CDE, Age 70+ and/or C.C.	99	194	37	97	230	3	74	250	40	94	251	29
209	Major Joint Procedures	61	228	29	58	310	1	38	303	19	51	298	17
210	Hip and Femur Procs, exc Maj. Joint, Age 70+ and/or C.C.	84	209	6	76	224	1	61	236	4	79	245	4
336	Transurethral Prostatectomy, Age 70+ and/or C.C.	65	168	39	40	189	2	24	180	50	48	186	31

Note: All dollars have been adjusted for geographic cost differences, using the PPS wage index. Includes imputed anesthesia charges for CRNA services (see text).

* Average charge less than $0.50.

Source: Mitchell and Rosenbach (1987) using Medicare Part A and B claims, 1984.

TABLE 12

AVERAGE INPATIENT PART B CHARGES FOR RADIOLOGY, ANESTHESIA, AND PATHOLOGY: MEDICAL ADMISSIONS

DRG		ALABAMA			CONNECTICUT			WASHINGTON			WISCONSIN		
		Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.
14	Specific Cerebrovascular Disorders with C.C.	$131	$3	$1	$108	$6	$1	$99	$7	$1	$108	$4	$1
15	Transient Ischemic Attacks	171	1	1	98	2	1	148	7	1	128	2	*
82	Respiratory Neoplasms	146	12	27	147	19	3	122	12	31	144	16	22
89	Pneumonia Age 70+ and/or C.C.	55	2	5	54	3	2	41	2	5	49	1	3
121	Acute Myocardial Infarction W/ C.V. Complications, Disc. Alive	67	1	1	80	2	2	57	6	1	70	2	2
125	Clr. Disorders exc AMI, Cardiac Cath. without Complex Dx	101	3	1	63	*	*	93	6	1	92	8	1
127	Heart Failure and Shock	56	1	2	56	1	2	42	2	2	49	1	1
172	Digestive Malignancy, Age 70+ and/or C.C.	104	14	14	111	30	3	78	15	15	85	13	8
182	Gastroenteritis and Misc. Dis. Age 70+ and/or C.C.	82	2	4	65	5	1	53	3	3	69	2	2
403	Lymphoma or Leukemia, Age 70+ and/or C.C.	113	10	40	114	20	3	86	16	32	105	16	34

Note: All dollars have been adjusted for geographic cost differences, using the PPS wage index includes imputed anesthesia charges for CRNA services (see text).

* Average charge less than $0.50.

Source: Mitchell and Rosenbach (1987) using Medicare Part A and B claims, 1984.

TABLE 13

AVERAGE TOTAL INPATIENT PART B RAP CHARGES WITHOUT IMPUTATIONS FOR CRNA CHARGES, BY DRG (coefficients of variation in parentheses)

DRG		ALABAMA		CONNECTICUT		WASHINGTON		WISCONSIN	
5	Extracranial Vascular Procs.	$591	(0.46)	$580	(0.59)	$494	(0.54)	$649	(0.51)
39	Lens Procedures	152	(0.69)	112	(0.78)	180	(0.58)	149	(0.83)
107	Coronary Bypass w/o Cardiac Cath.	749	(0.34)	894	(0.37)	775	(0.52)	1,162	(0.40)
116	Permanent Pacemaker Implant	183	(0.82)	195	(0.77)	167	(0.95)	153	(1.06)
148	Major Small and Large Bowel Procs	379	(0.69)	390	(0.68)	431	(0.56)	398	(0.69)
161	Inguinal and Femoral Hernia Procs	150	(0.78)	162	(0.58)	168	(0.56)	151	(0.83)
197	Cholecystectomy w/o CDE	268	(0.67)	300	(0.57)	337	(0.54)	306	(0.69)
209	Major Joint Procedures	282	(0.55)	343	(0.49)	344	(0.40)	322	(0.58)
210	Other Hip and Femur Procs	245	(0.65)	271	(0.57)	279	(0.49)	268	(0.66)
336	Transurethral Prostatectomy	237	(0.60)	208	(0.61)	240	(0.52)	229	(0.67)

Note: All dollars have been adjusted for geographic cost differences, using the PPS wage index. Cost weights include imputed anesthesia charges for CRNA services (see text).

Source: Mitchell and Rosenbach (1987) using Medicare Part A and B claims, 1984.

TABLE 14

RAP DRG COST WEIGHTS

DRG		ALABAMA	CONNECTICUT	WASHINGTON	WISCONSIN	POOLED
5	Extracranial Vascular Procs.	3.22	3.33	2.60	3.20	3.35
14	Specific Cerebrovascular Dis.	0.70	0.63	0.55	0.53	0.66
15	Transient Ischemic Attacks	0.89	0.55	0.79	0.61	0.80
39	Lens Procedures	1.06	1.17	1.13	1.04	1.20
82	Respiratory Neoplasms	0.95	0.92	0.84	0.86	0.98
89	Pneumonia	0.32	0.33	0.24	0.25	0.31
107	Coronary Bypass w/o Cardiac Cath.	3.99	5.06	4.23	5.65	5.28
116	Permanent Pacemaker Implant	1.42	1.36	1.22	1.32	1.47
121	Acute Myocardial Infarction, Disc.Alive	0.36	0.46	0.33	0.35	0.41
125	Circ. Disorders w/Cardiac Cath.	0.54	0.35	0.51	0.47	0.53
127	Heart Failure and Shock	0.30	0.32	0.23	0.25	0.30
148	Major Small and Large Bowel Procs	2.26	2.32	2.33	2.21	2.51
161	Inguinal and Femoral Hernia Procs	1.02	0.98	0.99	0.96	1.09
172	Digestive Malignancy	0.68	0.79	0.55	0.50	0.67
182	Gastroenteritis and Misc. Dis.	0.45	0.39	0.30	0.35	0.42
197	Cholecystectomy without CDE	1.69	1.80	1.85	1.77	1.96
209	Major Joint Procedures	1.64	2.01	1.82	1.73	1.99
210	Other Hip and Femur Procs	1.53	1.64	1.53	1.55	1.72
336	Transurethral Prostatectomy	1.40	1.26	1.29	1.26	1.44
403	Lymphoma or Leukemia	0.84	0.74	0.68	0.74	0.83

Note: State-specific cost weights were calculated based on 1984 Part B claims. Pooled cost weights were calculated from individual state DRG means, weighted by each state's number of admissions in that DRG. They were standardized by the pooled average cost per case.
Cost weights include imputed anesthesia charges for CRNA services (see text).

Source: Mitchell and Rosenbach (1987) using Medicare Part A and B claims, 1984.

TABLE 15

EXPLANATORY POWER OF DRGs FOR INPATIENT PART B RAP CHARGES (R-SQUARE)

	ALABAMA	CONNECTICUT	WASHINGTON	WISCONSIN
All Admissions	0.53	0.54	0.56	0.57
Surgical DRGs	0.46	0.44	0.42	0.48
Medical DRGs	0.10	0.09	0.11	0.10

Note: Based on all 470 DRGs.

Source: Mitchell and Rosenbach (1987) using Medicare Part A and B claims, 1984.

TABLE 16

IMPACT OF ALTERNATIVE PAYMENT RATES ON THE DISTRIBUTION OF WINNING AND LOSING HOSPITALS*

	Simulated "National Rate**	State Rate	Reasonable Charge Locality Rate
Big Winners ($25 or more)	40.8%	40.5%	24.6%
Small Winners ($15-$24)	12.3	13.3	13.3
Break-Even (+ or - $14)	31.0	31.5	48.2
Small Losers ($-15-$24)	7.1	6.1	6.2
Big Losers ($-25 or more)	8.8	8.6	7.4
Average Hospital Gain (Loss)	$14.92	$15.22	$10.56

* Columns sum to 100%.
** Weighted average of four states.

Note: Data are for the States of Alabama, Connecticut, Washington, and Wisconsin.

Source: Mitchell and Rosenbach (1987) using Medicare Part A and Part B claims, 1984.

TABLE 17

DISTRIBUTION OF PER CASE WINNERS AND LOSERS BY URBAN-RURAL LOCATION AND TEACHING STATUS*

	Urban Hospitals	Rural Hospitals	Teaching Hospitals	Non-Teaching Hospitals
Big Winners ($25 or more)	26.8%	55.6%	12.2%	48.9%
Small Winners ($15-$24)	13.9	10.6	5.6	14.2
Break-Even (+ or - $14)	34.5	27.3	41.1	28.1
Small Losers ($-15-$24)	10.5	3.5	14.4	5.1
Big Losers ($-25 or more)	14.4	3.0	26.7	3.8
Average Hospital Gain (Loss)	$6.58	$23.72	$(9.03)	$21.72

* Columns may not sum to 100% due to rounding. Gains and losses are calculated based on a pooled weighted average of four states: Alabama, Connecticut, Washington, and Wisconsin.

Source: Mitchell and Rosenbach (1987) using Medicare Part A and Part B claims, 1984.

APPENDIX A

BACKGROUND OF PAYING FOR RAPS INPATIENT SERVICES

Medicare has reimbursed for the physicians' services furnished to hospital inpatients by radiologists and pathologists differently from the way it has paid for other specialists' physicians' services to inpatients. This difference in payment stems from the nature of the historical financial relationships that have existed between hospitals and their radiologists and pathologists. These specialists were largely compensated physicians and it was the practice of hospitals to generate a combined charge for inpatient radiology and pathology services. To accommodate historical relationships, the Congress passed legislation in 1967 providing that inpatient radiology and pathology services would be reimbursed at the 100 percent payment rate. In effect, there was no Part B deductible or coinsurance. This legislation laid the groundwork for the combined billing method under which the intermediary would reimburse the hospital for the cost of its physicians' radiology and pathology services to inpatients. The combined billing method was also made available for use in connection with outpatient physicians' services.

Under the combined billing method since charges for physicians' services were combined with charges for hospital services from the same department, it was not possible for the intermediary to apply the usual reasonable charge principles on a per service or per procedure basis. Rather, the intermediary was responsible, at cost settlement, for evaluating the reasonableness of the physician's compensation for furnishing all physicians' services (i.e., the professional component compensation).

Although anesthesiologists have generally practiced in hospitals under fee-for-service arrangements much like surgeons since the early days of Medicare payment for physicians' anesthesia services has differed somewhat from payment for other physicians' services. Until 1983, the carriers were permitted to determine the reasonable charges for anesthesia services consistent with the predominant billing methods of such physicians in its service area. In many parts of the country, because the anesthesiologists developed their charges by means of a relative value scale and a dollar conversion factor, the carriers adopted the use of relative value scales and conversion factors in establishing reasonable charges for anesthesia services.

There were no major changes in Medicare payment policies for the services of radiologists, anesthesiologists, and pathologists until Congress enacted the Tax Equity and Fiscal Responsibility Act of 1982 (TEFRA). The TEFRA legislation affirmed longstanding Medicare policies limiting reasonable charge reimbursement to physicians' professional services to individual patients, as distinguished from administrative, supervisory, and teaching services furnished to the hospital. It required the Secretary to publish regulations differentiating between a physician's professional medical service personally rendered for an individual patient by a physician and professional services furnished by a physician which are rendered for the general benefit of patients in the facility. The regulations to implement the TEFRA legislation established general physician coverage principles for services furnished in hospitals by physicians. The TEFRA regulations also established specialty-specific physician coverage principles for anesthesia, radiology and pathology services.

For anesthesia services, the TEFRA regulations introduced the term "medical direction" to define the circumstances under which the anesthesiologist utilizes a qualified anesthetist in carrying out the anesthesia service. The regulations required that all carriers determine reasonable charges for anesthesia services on the basis of relative value units and conversion factors and uniformly defined one time unit as equivalent to 15 minutes of anesthesia time. Further, the regulations drew a distinction in payment between the case where the anesthesologist medically directs his/her own qualified anesthetist employee and the case where the anesthesologist medically directs a qualified anesthetist who is not his employee.

In addition, the TEFRA regulations also provided for the elimination of both the combined billing method and the use of the HCFA-1554 billing method. As a result of the TEFRA regulations, almost all physicians' services must be separately itemized and billed to the beneficiary or the program through the HCFA-1500. This enables HCFA more effectively to subject physicians' services to the overriding coverage principle that the service be reasonable and medically necessary, and to the reasonable charge principles ensuring that the physician charge is reasonable. (Legally, they have always been subject to these principles.)

The prospective payment legislation included a provision, commonly referred to as the "rebundling provision," that had some impact on services provided by physicians, particularly radiologists and pathologists. Under this provision, the hospital must furnish directly or under arrangements all nonphysician services provided to hospital inpatients. As a result of the TEFRA and PPS legislation, the services of nonphysicians, as well as the administrative and supervisory services of hospital physicians in connection with hospital inpatients, are paid through the DRG payment under the prospective payment system or on a reasonable cost basis for services furnished in non-PPS hospitals. The PPS regulations, however, created an administrative exception that allows anesthesiologists who had historically employed anesthetists to continue to receive payment through Part B for such services instead of through the hospital. Under subsequent legislation, namely Section 2312 of the Deficit Reduction Act of 1984 which enacted Section 1886 (d)(5)(E) of the Social Security Act, hospitals were allowed to receive payment on a reasonable cost basis for the services of certified registered nurse anesthetists they employ or whose services they obtain under arrangements. At the same time, regulations were revised permitting all anesthesiologists to receive reasonable charge payments for the anesthetists they employ on the basis of the accompanying conference report language (H.R. Rep. No. 861, 98th Congress, 2d sess. 1293 (1984)).

Appendix B

Listing of Radiology, Anesthesology, and Pathology HCPCS 1985 Codes

Type of Service	HCPCS*	Description
Radiology	R0000-R5999	HCFA assignment diagnostic radiology services
	70002-76499	Diagnostic radiology (diagnostic imaging)
	76700-76999	Diagnostic radiology (diagnostic ultrasound)
	77261-77799	Therapeutic radiology
	78000-79999	Nuclear medicine
--Miscellaneous surg injection		21116, 23350, 24220, 25246, 27093-27095, 27370, 27648, 31708-31715, 36000-36299, 38790-38794, 42550, 47500-47510, 47630, 49400, 49430-49440, 50390-50394, 50684, 50690, 51600-51610, 52010, 54230, 58340, 61026, 61055, 61120, 62284-62291, 68850
Pathology	80003-88399	Pathology and laboratory
Anesthesiology	any surgery	with Type of Service anesthesia and HCPCS modifier codes--AA, AB, AC, AD, AE, 22, 23, 47, 75, 99
	00100-01999	HCPCS anesthesia codes
	P1-P9	HCPCS modifiers--physical status
	99100-99140	HCPCS modifiers--qualifying circumstances
Consultations	80500-80502	consultations (clinical pathology)
	90600-90643	specialty is anesthesia (5), pathology (21, 22, 30, 31, 32, 36)

Note: The Health Care Financing Administration Common Procedure Coding System (HCPCS) is a listing of descriptive terms and codes for reporting Part B services and procedures performed by Medicare providers and suppliers. HCPCS includes CPT-4 descriptive terms and numeric identifying codes and modifiers that are copyrighted by the American Medical Association.

APPENDIX C

DRG COST WEIGHTS PRODUCED BY THE CIRCLE INC. FOR: North Dakota, South Dakota, Indiana and South Carolina

The following four tables produced by The Circle Inc. for the States of North Dakota, South Dakota, Indiana and South Carolina correspond to text tables 10-12 and 14 produced by CHER for the States of Alabama, Connecticut, Washington, and Wisconsin. There are some differences in methodology and approach between CHER and Circle. The major difference is that CHER imputed anesthesia charges for those surgical patients with no anesthesia bill. Other differences include the procedure for handling transfers (CHER assigned all charges to the receiving hospital whereas Circle deleted transfers) and some differences in HCPCS procedure codes used to define radiology, anesthesia, and pathology as the type of service. CHER and Circle are in the process of identifying other differences in methodology which may influence results by jointly analyzing the State of Washington. The Circle findings in four additional States are consistent with and support the conclusions drawn by CHER based on analysis of their four States.

APPENDIX C--TABLE 1

AVERAGE TOTAL INPATIENT PART B RAP CHARGES BY DRG (coefficients of variation in parentheses)

DRG		North Dakota		South Dakota		Indiana		South Carolina	
5	Extracranial Vascular Procs.	$769	(0.48)	$757	(0.58)	$606	(0.66)	$479	(0.63)
14	Specific Cerebrovascular Dis.	128	(1.52)	81	(1.33)	124	(1.16)	85	(1.29)
15	Transient Ischemic Attacks	166	(1.38)	100	(1.76)	140	(1.32)	114	(1.44)
39	Lens Procedures	199	(0.69)	189	(0.87)	158	(0.75)	147	(0.82)
82	Respiratory Neoplasms	244	(1.34)	256	(1.73)	201	(1.29)	143	(1.32)
89	Pneumonia	50	(1.32)	49	(1.30)	58	(1.44)	48	(1.47)
107	Coronary Bypass w/o Cardiac Cath.	911	(0.48)	794	(0.38)	1001	(0.42)	521	(0.72)
116	Permanent Pacemaker Implant	154	(0.77)	117	(1.24)	184	(1.02)	168	(1.16)
121	Acute Myocardial Infarction,Disc.Alive	72	(1.45)	62	(1.29)	98	(1.08)	45	(1.51)
125	Circ. Disorders w/ Cardiac Cath.	58	(1.93)	69	(1.23)	119	(1.36)	37	(1.94)
127	Heart Failure and Shock	51	(1.25)	44	(1.59)	63	(1.34)	39	(1.56)
148	Major Small and Large Bowel Procs	376	(0.72)	361	(0.74)	490	(0.57)	286	(0.84)
161	Inguinal and Femoral Hernia Procs	151	(0.76)	138	(0.99)	173	(0.66)	113	(1.01)
172	Digestive Malignancy	174	(1.57)	122	(1.79)	128	(1.47)	94	(1.62)
182	Gastroenteritis and Misc. Dis.	63	(1.22)	65	(1.30)	81	(1.11)	60	(1.28)
197	Cholecystectomy w/o CDE	283	(0.68)	279	(0.80)	360	(0.55)	215	(0.90)
209	Major Joint Procedures	394	(0.40)	377	(0.49)	350	(0.47)	232	(0.81)
210	Other Hip and Femur Procs	276	(0.68)	253	(0.82)	275	(0.57)	205	(0.87)
336	Transurethral Prostatectomy	275	(0.55)	266	(0.73)	317	(0.51)	200	(0.70)
403	Lymphoma or Leukemia	197	(1.39)	147	(1.82)	157	(1.40)	105	(1.36)

Note: All dollars have been adjusted for geographic cost differences, using the PPS wage index.

Source: The Circle Inc. using Medicare Part A and B claims, 1984.

APPENDIX C--TABLE 2

AVERAGE INPATIENT PART B CHARGES FOR RADIOLOGY, ANESTHESIA, AND PATHOLOGY: SURGICAL ADMISSIONS

DRG		North Dakota			South Dakota			Indiana			South Carolina		
		Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.
5	Extracranial Vascular Procs.	$326	$405	$30	$201	387	$39	$236	$331	$38	$214	$206	$13
39	Lens Procedures	59	128	10	72	76	3	20	132	5	15	121	2
107	Coronary Bypass without Cardiac Cath.	126	780	14	50	696	5	146	811	43	69	434	5
116	Permanent Pacemaker Implant without AMI or CHF	70	75	7	52	41	4	87	85	10	50	102	1
148	Major Small and Large Bowel Procs, Age 70+ and/or C.C.	89	196	76	79	145	85	101	237	151	81	140	42
161	Inguinal and Femoral Hernia Procs, Age 70+ and/or C.C.	18	97	29	16	72	24	22	125	25	18	73	11
197	Cholecystectomy without CDE, Age 70+ and/or C.C.	78	150	39	67	117	46	94	191	74	75	100	21
209	Major Joint Procedures	59	300	28	53	245	38	56	254	39	48	155	12
210	Hip and Femur Procs, exc Maj. Joint, Age 70+ and/or C.C.	85	170	7	70	142	4	72	194	7	62	124	2
336	Transurethral Prostatectomy, Age 70+ and/or C.C.	52	149	59	49	129	48	47	155	114	47	95	38

Note: All dollars have been adjusted for geographic cost differences, using the PPS wage index.

Source: The Circle Inc. using Medicare Part A and B claims, 1984.

APPENDIX C--TABLE 3

AVERAGE INPATIENT PART B CHARGES FOR RADIOLOGY, ANESTHESIA, AND PATHOLOGY: MEDICAL ADMISSIONS

DRG		North Dakota			South Dakota			Indiana			South Carolina		
		Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.	Rad.	Anes.	Path.
14	Specific Cerebrovascular Disorders with C.C.	$111	$7	$2	$68	$0	$1	$117	$2	$4	$75	$1	$1
15	Transient Ischemic Attacks	144	12	2	81	2	1	135	1	3	101	0	0
82	Respiratory Neoplasms	191	17	28	188	5	29	143	9	48	111	5	16
89	Pneumonia Age 70+ and/or C.C.	38	1	5	35	0	4	49	1	7	38	1	3
121	Acute Myocardial Infarction W/ C.V. Complications, Disc. Alive	60	3	2	50	0	1	79	1	17	39	2	0
125	Cir. Disorders exc AMI, Cardiac Cath. without Complex Dx	47	4	7	65	0	0	111	2	5	33	1	0
127	Heart Failure and Shock	41	0	4	35	0	2	56	0	7	34	0	1
172	Digestive Malignancy, Age 70+ and/or C.C.	134	18	15	82	10	13	89	12	25	72	5	7
182	Gastroenteritis and Misc. Dis. Age 70+ and/or C.C.	50	2	5	51	0	2	72	1	7	51	1	2
403	Lymphoma or Leukemia, Age 70+ and/or C.C.	145	2	46	100	0	28	103	2	51	67	2	27

Note: All dollars have been adjusted for geographic cost differences, using the PPS wage index.

Source: The Circle Inc. using Medicare Part A and B claims, 1984.

APPENDIX C--TABLE 4

RAP DRG COST WEIGHTS

DRG		North Dakota	South Dakota	Indiana	South Carolina
5	Extracranial Vascular Procs.	5.53	6.26	4.12	4.79
14	Specific Cerebrovascular Dis.	0.92	0.67	0.84	0.85
15	Transient Ischemic Attacks	1.19	0.83	0.95	1.14
39	Lens Procedures	1.43	1.56	1.07	1.47
82	Respiratory Neoplasms	1.76	2.12	1.37	1.43
89	Pneumonia	0.36	0.40	0.39	0.48
107	Coronary Bypass w/o Cardiac Cath.	6.55	6.56	6.81	5.21
116	Permanent Pacemaker Implant	1.11	0.97	1.25	1.68
121	Acute Myocardial Infarction, Disc.Alive	0.52	0.51	0.67	0.45
125	Circ. Disorders w/Cardiac Cath.	0.42	0.57	0.81	0.37
127	Heart Failure and Shock	0.37	0.36	0.43	0.39
148	Major Small and Large Bowel Procs	2.71	2.98	3.33	2.86
161	Inguinal and Femoral Hernia Procs	1.09	1.14	1.18	1.13
172	Digestive Malignancy	1.25	1.01	0.87	0.94
182	Gastroenteritis and Misc. Dis.	0.45	0.54	0.55	0.60
197	Cholecystectomy without CDE	2.04	2.31	2.45	2.15
209	Major Joint Procedures	2.83	3.12	2.38	2.32
210	Other Hip and Femur Procs	1.99	2.09	1.87	2.05
336	Transurethral Prostatectomy	1.98	2.20	2.16	2.00
403	Lymphoma or Leukemia	1.42	1.21	1.07	1.05

Source: The Circle Inc. using Medicare Part A and B claims, 1984.

APPENDIX D

ADJUSTED RAP CHARGES BY DRG

NAME	ALABAMA MEAN	ALABAMA CV	CONNECTICUT MEAN	CONNECTICUT CV	WASHINGTON MEAN	WASHINGTON CV	WISCONSIN MEAN	WISCONSIN CV
CRANIOTOMY AGE>17 EXCEPT TRAUMA	702.41	0.526	668.62	0.595	737.24	0.679	838.89	0.572
CRANIOTOMY FOR TRAUMA AGE>17	537.43	0.449	605.61	0.602	545.12	0.762	707.4	0.595
CRANIOTOMY AGE<18	0*	0.000	0*	0.000	0*	0.000	0*	0.000
SPINAL PROCEDURES	464.33	0.464	514.91	0.689	517.94	0.523	747.41	0.761
EXTRACRANIAL VASCULAR PROCEDURES	626.76	0.433	610.46	0.531	512.14	0.482	676.45	0.472
CARPAL TUNNEL RELEASE	142.13	0.469	135.49	0.313	136.46	0.349	155.45	0.489
OTH NERV SYST PROCS AGE>69 +/OR CC	298.2	0.698	261.33	0.726	295.97	0.912	332.59	0.901
OTH NERV SYST PROCS AGE<70 W/O CC	195.05	0.502	191.54	0.607	225.1	0.583	257.23	0.708
SPINAL DISORDERS+INJURIES	215.5	1.148	100.24	1.053	352.6	1.241	292.31	1.758
NERVOUS SYSTEM NEOPLASMS AGE>69 AND/OR CC	239.99	1.151	235.56	1.117	281.4	1.320	255.11	1.272
NERVOUS SYSTEM NEOPLASMS AGE<70 W/O CC	255.55	1.130	181.16	1.087	289.34	1.341	293.25	1.722
DEGENERATIVE NERVOUS SYSTEM DISORDERS	130.19	1.395	78.61	1.472	128.59	1.829	96	1.811
MULTIPLE SCLEROSIS+CEREBELLAR ATAXIA	103.99	1.288	57.16	1.578	70.72	2.237	90.92	1.311
SPECIFIC CEREBROVASCULAR DISORDERS WITH CC	135.44	1.175	115.1	1.262	107.54	1.388	112.37	1.337
TRANSIENT ISCHEMIC ATTACKS	173.07	1.097	100.18	1.440	155.2	1.331	129.75	1.303
NONSPECIFIC CEREBROVASCULAR DISORDERS WITH CC	140.32	1.139	89.34	1.022	101.81	1.515	107.58	1.361
NONSPECIFIC CEREBROVASCULAR DISORDERS W/O CC	166.27	1.118	74.67	1.423	112.92	1.282	119.33	1.453
CRANIAL+PERIPH NERVE DISORDERS AGE>69 +/OR CC	121.11	1.197	91.77	1.230	101.11	1.323	124.58	1.034
CRANIAL+PERIPH NERVE DISORDERS AGE<70 W/O CC	117.38	1.156	86.18	1.276	88.5	1.056	116.6	1.093
NERVOUS SYSTEM INFECTION EXCEPT VIRAL MENING	140.09	1.106	113.31	1.522	126.61	1.119	116.79	1.332
VIRAL MENINGITIS	82.06	0.968	79.79	1.022	54.65*	1.000	117.61*	0.072
HYPERTENSIVE ENCEPHALOPATHY	52.58	1.550	80.78	1.718	66.06	1.564	60.59	1.336
NONTRAUMATIC STUPOR+COMA	104.91	2.233	69.65	1.420	58.47	1.382	76.02	1.663
SEIZURE+HEADACHE>69 AND/OR CC	97.62	1.183	76.9	1.310	65.81	1.518	77.2	1.371
SEIZURE+HEADACHE AGE 18-69 W/O CC	80.68	1.195	57.47	1.442	58.26	1.724	61.09	1.345
SEIZURE+HEADACHE AGE 0-17	0*	0.000	0*	0.000	209.44*	0.008	0*	0.000
TRAUMATIC STUPOR+COMA, COMA>1 HR	159.48	1.289	344.89	1.428	91.13	1.007	143.93	1.282
TRAUMATIC STUPOR+COMA<1 HR AGE>69 +/OR CC	117.63	1.325	109.51	1.263	94.5	1.312	129.39	1.754
TRAUMATIC STUPOR+COMA<1 HR AGE 18-69 W/O CC	93.29	0.998	49.24	0.927	105.71	0.812	88.86	1.625
TRAUMATIC STUPOR+COMA<1 HR AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
CONCUSSION AGE>69 AND/OR CC	99.3	1.154	81.13	0.890	57.64	1.246	73.12	1.162
CONCUSSION AGE 18-69 W/O CC	65.39	0.943	81.47	0.757	58.26	0.745	68.01	1.367
CONCUSSION AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
OTHER DISORDERS OF NS AGE>69 AND/OR CC	146.24	1.274	131.19	1.874	121.48	1.599	125.5	1.335
OTHER DISORDERS OF NS AGE<70 W/OR CC	112.63	1.711	50.15	1.036	123.58	1.949	124.33	1.256
RETINAL PROCEDURES	251.39	0.305	296.28	0.342	285.14	0.278	345.17	0.421
ORBITAL PROCEDURES	211.67	0.388	214.95	0.419	240.48	0.280	303.41	0.497
PRIMARY IRIS PROCEDURES	155.14	0.455	151.18	0.349	139.96	0.432	163.46	0.622
LENS PROCEDURES	206.1	0.242	213.89	0.226	222.24	0.219	219.87	0.273
EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE>17	167.55	0.370	177.52	0.490	219.29	0.335	257.23	0.572
EXTRAOCULAR PROCEDURES EXCEPT ORBIT AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
INTRAOCULAR PROCS EXCEPT RETINA, IRIS+LENS	224.41	0.341	222.92	0.279	247.04	0.278	284.07	0.406
HYPHEMA	9.17*	0.890	81.74*	1.143	0*	0.000	20.72*	1.400
ACUTE MAJOR EYE INFECTIONS	24.79	1.834	29.93	1.605	10.56	2.407	38.15	2.325
NEUROLOGICAL EYE DISORDERS	266.88	0.825	207.3	1.063	247.99	1.478	211.39	1.035
OTHER DISORDERS OF THE EYE AGE>17 WITH CC	81.02	1.933	88.03	1.525	61.61	1.398	55.69	1.763
OTHER DISORDERS OF THE EYE AGE>17 W/O CC	72.49	1.370	89.53	1.375	67.27	2.077	49.96	1.690
OTHER DISORDERS OF THE EYE AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
MAJOR HEAD+NECK PROCEDURES	507.54	0.552	551.06	0.456	672.24	0.881	656.6	0.531
SIALOADENECTOMY	317.36	0.521	265.32	0.320	333.12	0.409	295.86	0.486

MEANS BASED ON LESS THAN TEN OBSERVATIONS.

ADJUSTED RAP CHARGES BY DRG

G	NAME	ALABAMA MEAN	ALABAMA CV	CONNECTICUT MEAN	CONNECTICUT CV	WASHINGTON MEAN	WASHINGTON CV	WISCONSIN MEAN	WISCONSIN CV
1	SALIVARY GLAND PROCS EXCEPT SIALOADENECTOMY	223.87	0.378	163.3	0.356	256.98	0.484	245.78	0.734
2	CLEFT LIP+PALATE REPAIR	0*	0.000	165.11*	0.147	276.03*	0.009	208.93*	0.009
3	SINUS+MASTOID PROCEDURES AGE>17	222.92	0.436	234.74	0.476	252.44	0.379	241.9	0.440
4	SINUS+MASTOID PROCEDURES AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
5	MISCELLANEOUS EAR, NOSE+THROAT PROCEDURES	179.83	0.381	188.91	0.463	200.01	0.437	207.02	0.432
6	RHINOPLASTY	177.87	0.392	153.98	0.208	187.81	0.340	165.17	0.464
7	OTH T+A PROCS AGE>17	237.22	0.512	225.01	0.549	265.56	0.514	254.76	0.415
8	OTH T+A PROCS AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
9	TONSILLECTOMY +/OR ADENOIDECTOMY AGE>17	124.31*	0.320	163.38*	0.355	180.4*	0.207	203.22	0.409
0	TONSILLECTOMY +/OR ADENOIDECTOMY AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
1	MYRINGOTOMY AGE>17	174.54	0.697	122.81	0.282	132.8*	0.441	227.27	0.814
2	MYRINGOTOMY AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
3	OTHER EAR, NOSE+THROAT O.R. PROCEDURES	262.08	0.869	348.55	0.889	349.04	0.799	325.25	0.722
4	EAR, NOSE+THROAT MALIGNANCY	169.84	1.212	165.49	1.040	172.25	0.991	190.07	1.199
5	DYSEQUILIBRIUM	96.43	1.269	47.39	1.467	41.67	2.228	55.48	1.473
6	EPISTAXIS	34.64	1.993	19.3	2.390	16.16	2.529	25.98	3.231
7	EPIGLOTTITIS	36.2*	0.299	35.56*	0.598	18.36*	1.479	0*	0.000
8	OTITIS MEDIA+URI AGE>69 AND/OR CC	44.8	1.479	39.17	1.341	32.1	1.841	39.93	1.725
9	OTITIS MEDIA+URI AGE 18-65 W/O CC	49.55	1.334	76.56	1.130	32.04	1.696	37.59	1.399
0	OTITIS MEDIA+URI AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
1	LARYNGOTRACHEITIS	91.07*	0.700	0*	0.000	54.59*	1.332	15.96*	0.227
2	NASAL TRAUMA+DEFORMITY	93.38	0.775	61.67	0.995	65.87	1.239	88	1.303
3	OTHER EAR, NOSE+THROAT DIAG. AGE>17	112.09	1.140	90.52	0.947	83.77	1.155	98.47	1.847
4	OTHER EAR, NOSE+THROAT DIAG. AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
5	MAJOR CHEST PROCEDURES	631.13	0.474	576.4	0.436	664.86	0.379	702.59	0.450
6	OR PROCS ON RESP SYS EXC MAJOR CHEST WITH CC	443.7	0.575	469.15	0.711	515.33	0.584	603.61	0.655
7	OR PROCS ON RESP SYS EXC MAJOR CHEST W/O CC	396.18	0.740	242.96	0.466	334.05	0.531	420.29	0.599
8	PULMONARY EMBOLISM	150.83	0.915	162.09	1.040	141.47	1.267	155.33	0.911
9	RESP INFEC+INFLAM AGE>69 AND/OR CC	85.68	1.442	105.26	1.390	86.33	1.787	83.23	1.557
0	RESP INFEC+INFLAM AGE 18-69 W/O CC	77.43	1.583	110.98	1.153	109.06	1.166	78.5	1.343
1	RESP INFEC+INFLAM AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
2	RESPIRATORY NEOPLASMS	184.7	1.265	167.9	1.222	165.19	1.427	181.56	1.409
3	MAJOR CHEST TRAUMA AGE>69 AND/OR CC	104.89	1.147	90.48	1.173	65.85	1.195	70.68	1.207
4	MAJOR CHEST TRAUMA AGE<70 W/O CC	65.33	0.781	25.9*	0.843	42.84*	0.961	41.29	0.771
5	PLEURAL EFFUSION AGE>69 AND/OR CC	124.43	1.012	103.86	1.260	112.72	0.992	103.39	1.072
6	PLEURAL EFFUSION AGE<70 W/O CC	167.25	1.076	98.9*	0.931	171.01	0.728	148.73	0.902
7	PULMONARY EDEMA+RESPIRATORY FAILURE	60.49	1.574	61.43	1.918	55.09	1.919	71.7	2.347
8	CHRONIC OBSTRUCTIVE PULMONARY DISEASE	51.61	1.554	44.88	1.617	32.43	2.579	39.7	1.809
9	SIMPLE PNEUMONIA+PLEURISY AGE>69 AND/OR CC	62.63	1.383	59.75	1.395	46.94	1.671	53.89	1.438
0	SIMPLE PNEUMONIA+PLEURISY AGE 18-69 W/O CC	56.15	1.344	57.45	1.542	47.07	2.083	54.58	1.467
1	SIMPLE PNEUMONIA+PLEURISY AGE 0-17	216.83*	0.009	0*	0.000	0*	0.000	0*	0.000
2	INTERSTITIAL LUNG DISEASE AGE>69 AND/OR CC	118.82	1.119	75.3	1.213	92.61	1.392	94.7	1.292
3	INTERSTITIAL LUNG DISEASE AGE<70 W/O CC	152.24	0.857	77.58	1.192	52.13*	0.882	67.07	2.001
4	PNEUMOTHORAX AGE>69 AND/OR CC	130.51	1.127	102.98	1.370	81.24	0.990	90.09	0.907
5	PNEUMOTHORAX AGE<70 W/O CC	59.52	0.903	38*	1.132	63.46	1.164	71.1	1.023
6	BRONCHITIS+ASTHMA AGE>69 AND/OR CC	40.42	1.589	32.41	1.646	26.82	1.886	33.25	2.028
7	BRONCHITIS+ASTHMA AGE 18-69 W/O CC	35.48	1.514	21.3	1.656	17.49	2.055	30.11	1.976
8	BRONCHITIS+ASTHMA AGE 0-17	0*	0.000	0*	0.000	0*	0.000	13.34*	0.023
9	RESP SIGNS+SXS AGE>69 +/OR CC	80.37	1.306	70.3	1.526	54.39	1.697	67.62	1.419
0	RESP SIGNS+SXS AGE<70 W/O CC	83.62	1.196	57.5	1.255	45.96	1.729	57.21	1.256

MEANS BASED ON LESS THAN TEN OBSERVATIONS.

AME	ALABAMA MEAN	CV	CONNECTICUT MEAN	CV	WASHINGTON MEAN	CV	WISCONSIN MEAN	CV
THER RESP DIAG AGE>69 AND/OR CC	87.16	1.530	66.21	1.475	63.76	1.603	78.99	1.356
THER RESP DIAG AGE<70	80.37	1.191	85.18	1.165	68.16	1.754	83.38	1.245
EART TRANSPLANT	179.28*	0.099	0*	0.000	0*	0.000	0*	0.000
ARDIAC VALVE PROC W/ PUMP+CARDIAC CATH	847.98	0.298	1090.28	0.379	1012	0.323	1288.57	0.318
ARDIAC VALVE PROC W/ PUMP+W/O CARDIAC CATH	793.26	0.402	951.67	0.365	949.04	0.423	1246.46	0.414
ORONARY BYPASS WITH CARDIAC CATH	808.05	0.281	925.25	0.270	912.85	0.364	1195.16	0.338
ORONARY BYPASS W/O CARDIAC CATH	775.93	0.315	926.55	0.318	833.14	0.330	1194.11	0.380
ARDIOTHORACIC EXC VALVE+CABG WITH PUMP	620.64	0.464	663.83	0.419	406.43	0.608	614.07	0.677
ARDIOTHORACIC PROCEDURES W/O PUMP	572.2	0.553	672.07	0.619	582.17	0.561	809.04	0.528
AJOR RECONSTRUCT VASC PROCS AGE>69 +/OR CC	658.98	0.434	713.67	0.451	703.68	0.497	793.1	0.455
AJOR RECONSTRUCT VASC PROCS AGE<70 W/O CC	553.44	0.422	597.79	0.420	541.78	0.379	681.96	0.456
ASCULAR PROCEDURES EXCEPT MAJOR RECON	529.16	0.537	520.52	0.697	600.69	0.547	597.92	0.592
MPUT FOR CIRC SYS DISORDERS EXC UP LIMB+TOE	275.16	0.572	272.87	0.718	342.87	0.775	293.65	0.661
PPER LIMB+TOE AMPUT FOR CIRC SYS DISORDERS	248.3	0.684	218.46	0.806	249.31	0.706	283.19	0.850
ERM CARDIAC PACEMAKER IMPLANT WITH AMI OR CHF	284.38	0.372	292.86	0.574	276.61	0.456	312.69	0.411
ERM CARDIAC PACEMAKER IMPLANT W/O AMI OR CHF	276.99	0.433	249.54	0.506	239.53	0.538	278.95	0.438
ARDIAC PACEM REPL+REVIS EXC PULSE GEN REPL ONLY	223.74	0.680	211.85	0.504	252.75	0.393	245.86	0.446
ARDIAC PACEMAKER PULSE GENERATOR REPLACE ONLY	180.82	0.478	132.25	0.551	158.72	0.342	210.68	0.358
EIN LIGATION+STRIPPING	230.43	0.411	227.94	0.489	245.58	0.442	243.26	0.438
THER O.R. PROCEDURES ON THE CIRCULATORY SYSTEM	267.97	0.755	275.17	0.728	329.83	0.687	326.47	0.813
IRC DISORDERS WITH AMI+CV COMPLICS, ALIVE	69.36	1.231	84.38	1.318	64.62	1.317	72.98	1.231
IRC DISORDERS WITH AMI W/O CV COMPLICS, ALIVE	61.06	1.592	55.07	1.577	40.51	1.595	56.07	1.566
IRCULATORY DISORDERS WITH AMI, EXPIRED	52.25	1.782	61.92	1.461	56.84	1.454	51.41	1.843
IRC DISORDERS EXC AMI, W/CARD CATH+COMPLEX DX	132.52	1.123	99.1	1.270	114.59	1.126	135	1.357
IRC DISORDERS EXC AMI, CARD CATH W/O COMPLEX DX	105.83	1.331	63.64	1.635	99.92	1.190	100.2	1.552
CUTE+SUBACUTE ENDOCARDITIS	241.14	1.670	208.78	0.750	232.63	1.090	240.17	1.628
EART FAILURE+SHOCK	58.37	1.361	59.14	1.378	46.12	1.554	51.84	1.534
EEP VEIN THROMBOPHLEBITIS	55.42	1.424	108.43	1.113	73.71	1.673	80.23	1.144
ARDIAC ARREST	53.76	1.640	66.69	1.599	61.13	1.442	70.73	1.979
ERIPH VASCULAR DISORDERS AGE>69 AND/OR CC	124.09	1.429	146.73	1.295	167.64	1.198	138.84	1.139
ERIPH VASCULAR DISORDERS AGE<70 W/O CC	136.51	1.234	148.24	1.048	196.16	0.959	168.52	1.098
THEROSCLEROSIS AGE>69 AND/OR CC	64.88	1.518	49.62	2.142	44.91	2.283	56.89	1.976
THEROSCLEROSIS AGE<70 W/O CC	72.29	1.651	32.46	1.790	84.08	3.291	105.26	2.243
YPERTENSION	72.7	1.315	71.25	1.661	59.9	2.119	60.84	1.568
ARDIAC CONGENITAL+VALVE DIS AGE>69 +/OR CC	96.53	1.026	84.42	1.967	79.01	1.314	83.17	1.950
ARDIAC CONGENITAL+VALVE DIS AGE 18-69 W/O CC	108.39	0.963	45.33	1.539	66.98*	0.755	69.03	1.156
ARDIAC CONGENITAL+VALVE DIS AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
ARDIAC ARRHYTHM+CONDUCTION DIS AGE>69 +/OR CC	58.39	1.402	51.86	1.615	35.67	1.893	44.24	1.664
ARDIAC ARRHYTHMIA+CONDUCTION DIS AGE<70 W/O CC	58.41	1.399	32.29	1.575	29.8	3.222	35.46	1.855
NGINA PECTORIS	43.81	1.590	34.88	1.614	24.36	1.920	35.08	1.524
NYCOPE+COLLAPSE AGE>69 AND/OR CC	90.44	1.207	61.46	1.332	40.09	1.834	57.58	1.455
YNCOPE+COLLAPSE AGE<70 W/O CC	100.09	1.274	43.43	1.479	33.61	2.051	60.65	1.326
HEST PAIN	62.97	1.244	41.13	1.553	30.84	1.546	49.59	1.464
THER CIRCULATORY DIAGNOSES WITH CC	90.43	1.295	92.45	1.295	70.07	1.556	83.89	1.879
THER CIRCULATORY DIAGNOSES W/O CC	91.43	1.215	75.88	1.322	80.92	1.874	84.2	1.531
ECTAL RESECTION AGE>69 AND/OR CC	511.65	0.450	488.36	0.439	526.5	0.414	535.74	0.466
ECTAL RESECTION AGE<70 W/O CC	422.31	0.341	426.05	0.285	433.42	0.264	437.31	0.309
AJ SM+LGE BOWEL PROCS AGE>69 +/OR CC	439.72	0.530	425.61	0.563	458.97	0.484	467.73	0.497
AJ SM+LGE BOWEL PROCS AGE<70 W/O CC	354.84	0.417	331.62	0.383	391.98	0.485	396.42	0.474
ERITONEAL ADHESIOLYSIS>69 AND/OR CC	320.53	0.477	390.28	0.583	354.27	0.541	414.34	0.831

EANS BASED ON LESS THAN TEN OBSERVATIONS.

AME	ALABAMA MEAN	CV	CONNECTICUT MEAN	CV	WASHINGTON MEAN	CV	WISCONSIN MEAN	CV
ERITONEAL ADHESIOLYSIS<70 W/O CC	261.25	0.471	266.98	0.543	260.94	0.336	331.4	0.535
INOR SM+LGE BOWEL PROCS AGE>69 +/OR CC	279.8	0.436	286.94	0.414	319.11	0.399	320.5	0.392
INOR SM+LGE BOWEL PROCS AGE<70 W/O CC	245.16	0.338	253.22	0.301	282.69	0.396	280.17	0.434
TOMACH, ESOPH+DUODENAL PROCS AGE>69 +/OR CC	440.67	0.500	420.49	0.589	458.96	0.566	507.52	0.525
TOMACH, ESOPH+DUODENAL PROCS AGE 18-69 W/O CC	368.49	0.423	346.89	0.359	349.03	0.411	392.56	0.447
TOMACH, ESOPH+DUODENAL PROCS AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
NAL PROCEDURES AGE>69 AND/OR CC	196.24	0.485	176.56	0.562	204.61	0.498	221.73	0.534
NAL PROCEDURES AGE<70 W/O CC	168.83	0.448	149.63	0.330	172.43	0.366	161.19	0.336
ERNIA PROCS EXC ING+FEMORAL AGE>69 +/OR CC	229.32	0.535	226.93	0.443	246.97	0.442	248.76	0.445
ERNIA PROCS EXC ING+FEMORAL AGE 18-69 W/O CC	181.35	0.368	185.23	0.353	203.45	0.278	211.19	0.378
NGUINAL+FEMORAL HERNIA PROCS AGE>69 +/OR CC	197.84	0.458	180.13	0.415	194.03	0.330	203.96	0.441
NGUINAL+FEMORAL HERNIA PROCS AGE 18-69 W/O CC	168.38	0.355	173.66	0.313	175.89	0.274	184.16	0.351
ERNIA PROCEDURES AGE 0-17	0*	0.000	0*	0.000	0*	0.000	320.59*	0.006
PPENDECTOMY W COMPLIC PRINC DX AGE>69 +/OR CC	293.9	0.395	302.24	0.789	317.28	0.577	292.94	0.348
PPENDECTOMY W COMPLIC PRINC DX AGE<70 W/O CC	206.62	0.163	264.98	0.336	226.28	0.149	313.58	0.349
PPENDECTOMY W/O COMPLIC PRINC DX AGE>69 +/OR CC	248.87	0.363	234.84	0.427	264.98	0.317	276.67	0.433
PPENDECTOMY W/O COMPLIC PRINC DX AGE<70 W/O CC	223.65	0.318	206.99	0.210	220.36	0.222	262.11	0.391
ROCEDURES ON THE MOUTH AGE>69 AND/OR CC	246.58	0.504	312.03	0.591	310.82	0.858	266.91	0.859
ROCEDURES ON THE MOUTH AGE<70 W/O CC	235.96	0.590	214.54	0.539	266.57	0.367	264.08	0.465
THER DIGESTIVE SYSTEM PROCS AGE>69 +/OR CC	377.02	0.521	341.82	0.680	398.75	0.745	498.77	0.784
THER DIGESTIVE SYSTEM PROCS AGE<70 W/O CC	332.56	0.600	196.61	0.716	314.76	0.487	455.69	0.857
IGESTIVE MALIGNANCY AGE>69 AND/OR CC	132.35	1.414	143.78	1.514	108.48	1.512	105.3	1.493
IGESTIVE MALIGNANCY AGE<70 W/O CC	117.13	1.539	83.31	1.234	130.91	1.254	116.3	1.796
.I. HEMORRHAGE AGE>69 AND/OR CC	73.04	1.175	68.5	1.589	53.28	1.313	62.64	1.206
.I. HEMORRHAGE AGE<70 W/O CC	77.59	1.138	50.14	1.229	44.14	1.420	51.66	1.231
OMPLICATED PEPTIC ULCER	100.61	1.024	105.65	1.249	79.06	1.108	86.2	1.005
NCOMPLICATED PEPTIC ULCER>69 AND/OR CC	109.64	0.811	74.26	1.102	74.76	1.055	97.71	0.842
NCOMPLICATED PEPTIC ULCER <70 W/O CC	120.05	0.900	71.43	0.822	63.22	0.772	86.75	0.844
NFLAMMATORY BOWEL DISEASE	83.93	1.003	80.49	1.088	63.91	1.062	104.72	1.159
.I. OBSTRUCTION AGE>69 AND/OR CC	76.67	1.020	85.37	1.136	68.67	1.234	78.06	1.084
.I. OBSTRUCTION AGE<70 W/O CC	72.86	0.947	65.11	1.070	59.48	1.356	80.84	0.959
ISC DIGESTIVE DIS AGE>69 +/OR CC	87.82	1.044	71.51	1.266	58.63	1.301	73.51	1.155
ISC DIGESTIVE DIS AGE 18-69 W/O CC	95.94	0.920	74.9	1.139	57.33	1.188	84.52	1.100
ISC DIGESTIVE DIS AGE 0-17	0*	0.000	0*	0.000	92.91*	1.000	11.63*	1.414
ENTAL+ORAL DIS EXC EXTRAC+RESTOR AGE>17	77.03	1.545	92.88	1.557	88.74	1.186	90.29	1.404
ENTAL+ORAL DIS. EXC. EXTRAC+RESTOR, AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
ENTAL EXTRACTIONS+RESTORATIONS	54.55	1.227	35.27	1.809	41.74	1.528	111.3	1.073
THER DIGESTIVE SYSTEM DX AGE>69 +/OR CC	94.6	1.356	74.74	1.421	85.68	1.410	82.07	1.231
THER DIGESTIVE SYSTEM DX AGE 18-69 W/O CC	83.91	1.096	77.37	1.373	89.29	1.022	74.37	1.225
THER DIGESTIVE SYSTEM DIAGNOSES AGE 0-17	0*	0.000	0*	0.000	0*	0.000	90.67*	1.000
AJOR PANCREAS, LIVER+SHUNT PROCEDURES	640.02	0.439	685.85	0.499	791.99	0.470	792.26	0.492
INOR PANCREAS, LIVER+SHUNT PROCEDURES	634.3	0.618	653.78	0.618	667.74	0.604	562.7	0.893
BILIARY TRACT PROC EXC TOT CHOLEC AGE>69 +/OR CC	475.62	0.444	468.93	0.501	486.53	0.572	489.1	0.433
BILIARY TRACT PROC EXC TOT CHOLEC AGE<70 W/O CC	329.78	0.489	302.06	0.533	397.75	0.460	407.52	0.470
TOTAL CHOLECYST W C.D.E. AGE>69 +/OR CC	408.36	0.348	462.42	0.463	431.41	0.354	472.2	0.390
TOTAL CHOLECYST W C.D.E. AGE<70 W/O CC	423.31	0.510	318.22	0.250	370.17	0.277	419.79	0.598
TOTAL CHOLECYST W/O C.D.E. AGE>69 +/OR CC	329.45	0.446	329.62	0.433	364.21	0.443	373.99	0.444
TOTAL CHOLECYST W/O C.D.E. AGE<70 W/O CC	281.43	0.369	270.38	0.309	303.36	0.248	295.71	0.296
HEPATOBILIARY DIAG PROC FOR MALIGNANCY	489.19	0.373	442.04	0.537	390.03	0.565	501.5	0.567
HEPATOBILIARY DIAG PROC FOR NON-MALIGNANCY	430.14	0.535	401.98	0.435	396.24	0.658	468.83	0.731

MEANS BASED ON LESS THAN TEN OBSERVATIONS.

	ALABAMA MEAN	CV	CONNECTICUT MEAN	CV	WASHINGTON MEAN	CV	WISCONSIN MEAN	CV
ER HEPATOBILIARY OR PANCREAS O.R. PROCEDURES	342.83	0.467	313.51	0.462	258.64	0.526	347.25	0.670
RHOSIS+ALCOHOLIC HEPATITIS	118.83	1.313	90.49	1.663	74.07	1.500	93.54	1.298
IGNANCY OF HEPATOBILIARY SYSTEM OR PANCREAS	152.2	1.246	138.64	1.391	121.91	1.897	127.7	1.461
ORDERS OF PANCREAS EXCEPT MALIGNANCY	121.27	0.928	116.31	1.062	110.51	1.271	111.01	0.904
ER DIS EXC MALIG CIRR ALC HEPA AGE>69 OR CC	128.97	1.016	112.65	1.322	75.89	1.281	106.9	1.130
ER DIS EXC MALIG CIRR ALC HEPA AGE<70 W/O CC	120.98	0.890	62.84	1.203	75.84	1.015	85.25	1.032
ORDERS OF THE BILIARY TRACT AGE>69 AND/OR CC	119.57	0.846	117.83	0.995	91.7	0.894	110.55	0.868
ORDERS OF THE BILIARY TRACT AGE<70 W/O CC	113.93	0.853	121.59	1.004	92.58	1.152	103.45	0.901
OR JOINT PROCEDURES	318.26	0.417	368.87	0.364	358.96	0.335	366.02	0.402
+FEMUR PROCS EXC MAJ JOINT AGE>69 +/OR CC	298.71	0.426	300.44	0.416	301.06	0.393	327.22	0.417
+FEMUR PROCS EXC MAJ JOINT AGE 18-69 W/O CC	266.6	0.330	278.66	0.282	276.59	0.315	308.38	0.368
+FEMUR PROCS EXC MAJ JOINT AGE 0-17	91.96*	0.013	0*	0.000	0*	0.000	0*	0.000
UTATIONS FOR MUSCULOSKELETAL DISORDERS	267.56	0.771	276.68	1.253	289.34	0.745	303.01	0.720
K+NECK PROCEDURES AGE>69 AND/OR CC	434.82	0.450	415.02	0.450	442.65	0.467	571.28	0.550
K+NECK PROCEDURES AGE<70 W/O CC	383.5	0.410	361.77	0.351	381.23	0.401	478.1	0.458
PSIES OF MUSCULOSK SYSTEM+CONN TISSUE	440.23	0.604	281.64	0.751	313.67	0.521	442.72	0.649
ND DEBRID+SKIN GRAFT EXC HAND FOR MUSC DIS	272.77	0.581	330.19	0.934	310.86	0.811	315.48	0.858
EXT+HUMER PROC EXC HIP FOOT FEMUR AGE>69 OR CC	244.83	0.458	256.43	0.560	264.84	0.429	268.48	0.419
EXT+HUMER PROC EXC HIP FOOT FEMUR AGE 18-69	209.27	0.332	231.08	0.387	238.88	0.401	246.04	0.619
EXT+HUMER PROC EXC HIP FOOT FEMUR AGE 0-17	196.12*	0.001	0*	0.000	0*	0.000	0*	0.000
E PROCS AGE>69 +/OR CC	220.81	0.391	185.9	0.364	216.93	0.425	231.32	0.501
E PROCS AGE<70 W/O CC	190.2	0.354	172.59	0.260	195.46	0.295	194.45	0.439
ER EXTREM PROC EXC HUMERUS+HAND AGE>69 +/OR CC	214.3	0.397	220.88	0.330	244	0.498	255.42	0.517
ER EXTREM PROC EXC HUMERUS+HAND AGE<70 W/O CC	198.27	0.361	211.14	0.351	238.04	0.562	217.69	0.357
T PROCEDURES	187.86	0.455	160.46	0.353	193.26	0.339	181.37	0.410
T TISSUE PROCS AGE>69 +/OR CC	222.79	0.626	232.16	0.762	231.1	0.442	254.35	0.635
T TISSUUE PROCS AGE<70 W/O CC	181.99	0.490	186.26	0.401	185.59	0.265	205.05	0.562
GLION (HAND) PROCEDURES	149.47	0.275	135.67*	0.185	132.04*	0.316	143.83	0.242
) PROCS EXC GANGLION	191.09	0.383	180.34	0.357	208.78	0.358	206.96	0.330
AL EXCI+REMOV INT FIX DEVICES OF HIP+FEMUR	183	0.441	167.74	0.474	187.97	0.342	217.61	0.420
AL EXCI+REMOV INT FIX DEVICES EXC HIP+FMR	198.66	0.694	174.61	0.488	214.5	0.535	202.85	0.561
ROSCOPY	170.78	0.367	160.23	0.687	162.87	0.318	155.4	0.385
MUSCULOSK OR TISSUE PROCS AGE>69 +/OR CC	265.77	0.822	230.09	0.560	264.56	0.640	346.31	0.749
MUCULOSK OR TISSUE PROCS AGE<70 W/O CC	200.44	0.631	247.24	0.683	232.54	0.489	257.1	0.628
CTURES OF FEMUR	92.23	1.197	76.75	1.051	71	1.241	95.61	1.237
CTURES OF HIP+PELVIS	86.77	1.224	91.01	1.365	65.63	1.916	68.55	1.294
AINS,STRAINS + DISLOC OF HIP, PELVIS+THIGH	78.38	0.581	57.35	0.871	51.09	1.476	59.31	1.261
EOMYELITIS	85.9	1.166	107.13	1.906	67.98	1.434	104.56	1.370
H FXS+MUSCULOSKELETAL MALIGNANCY	157.72	1.090	137.18	1.269	126.54	1.599	140.63	1.389
NECTIVE TISSUE DIS AGE>69 +/OR CC	95.82	1.229	86.07	1.513	90.74	1.574	89.05	1.337
NECTIVE TISSUE DIS AGE<70 W/O CC	89.1	1.220	58.88	1.354	78.59	1.382	60.11	1.305
TIC ARTHRITIS	71.37	1.133	91.65	1.391	49.56	1.200	90.84	1.458
ICAL BACK PROBLEMS	100.68	1.030	81.13	1.233	86.45	1.276	100.88	1.125
E DIS&SEPTIC ARTHROPATHY AGE>69 +/OR CC	88.09	1.001	74.28	1.149	63.35	1.532	71.62	1.335
E DIS&SEPTIC ARTHROPATHY AGE<70 W/O CC	94.81	1.091	65.54	0.984	71.51	1.250	83.62	1.080
-SPECIFIC ARTHROPATHIES	66.69	1.203	45.77	1.153	54.63	1.512	47.57	1.362
NS+SXS MUSCULOSK+CONN TISSUE	87.41	1.166	82.07	1.128	77.28	1.634	87.15	1.234
DONITIS, MYOSITIS+BURSITIS	92.3	0.885	83.72	1.480	79.91	1.652	80.49	1.239
ERCARE, MUCULOSKELETAL+CONN TISSUE DXS	107.5	1.008	110.76	1.306	108.42	1.212	102.93	1.505
SPRNS ETC FOREARM HAND FOOT AGE>69 +/OR CC	86.12	0.896	65.27	0.992	68.47	1.113	82.73	0.956

NS BASED ON LESS THAN TEN OBSERVATIONS.

NAME	ALABAMA MEAN	CV	CONNECTICUT MEAN	CV	WASHINGTON MEAN	CV	WISCONSIN MEAN	CV
FXS SPRNS ETC FOREARM HAND FOOT AGE 18-69 W/O CC	89.11	0.867	87.49	0.849	82.32	0.912	84.79	0.959
FXS SPRNS ETC FOREARM HAND FOOT AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
FXS SPRNS UP ARM L LEG EX FOOT AGE>69 +/OR CC	64.98	1.315	61.82	1.213	48.52	1.660	55.92	1.489
FXS SPRNS UP ARM L LEG EX FOOT AGE 18-69 W/O CC	57.71	1.044	65.29	1.067	67.99	1.735	50.4	1.131
FXS SPRNS UP ARM L LEG EX FOOT AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
OTH DX OF MUSCULOSK SYS+CONN TISSUE	75.46	1.163	75.09	1.473	99.3	1.685	68.95	1.634
TOTAL MASTECTOMY FOR MALIG AGE>69 +/OR CC	361.3	0.380	267.82	0.435	341.1	0.348	343.19	0.402
TOTAL MASTECTOMY FOR MALIG AGE<70 W/O CC	321.24	0.370	252.27	0.335	362.73	0.349	345.04	0.365
SUBTOTAL MASTECTOMY MALIG AGE>69 +/OR CC	316.17	0.545	213.6	0.573	346.88	0.821	294.45	0.568
SUBTOTAL MASTECTOMY MALIG AGE<70	315.52	0.642	221.08	0.442	262.57	0.356	218.31	0.373
BREAST PROC FOR NORMALIG EXC BIOP+EXC	240.98	0.503	163.55	0.415	295.37	0.348	251.14	0.512
BREAST BIOP+LOC EXCI FOR NON-MALIG	202.34	0.336	147.32	0.361	212.59	0.300	197.79	0.394
SKIN GRAFTS FOR SKIN ULCER/CELLUL AGE>69 +/OR C	202.78	0.634	239.2	0.754	261.43	0.635	231.44	0.540
SKIN GRAFTS FOR SKIN ULCER/CELLUL AGE<70 W/O CC	203.15	0.551	195.14	0.873	246.93	0.856	198.16	0.427
SKIN GRAFTS EXC FOR SKIN ULCER OR CELLUL W CC	266.94	0.471	277.66	0.701	419.31	0.685	346.94	0.699
SKIN GRAFTS EXC FOR SKIN ULCER OR CELLUL W/O CC	207.34	0.451	208.82	0.485	270.98	0.486	270.5	0.592
PERIANAL+PILONICAL PROCEDURES	144.02	0.272	129.55	0.439	196.93*	0.492	133.51	0.429
SKIN SUBCUTANEOUS TISS+BREAST PLASTIC PROCS	243.46	0.411	182.09	0.371	278.94	0.394	210.77	0.252
OTH SKIN SUBCUT TISS+BRST OR PROCS AGE>69 +/OR CC	212.13	0.564	192.42	0.654	270.86	0.861	265.07	0.723
OTH SKIN SUBCUT TISS+BRST OR PROCS AGE<70 W/O CC	187.36	0.677	164.35	0.611	272.47	0.893	181.9	0.683
SKIN ULCERS	42.97	1.876	60.66	2.116	62.92	2.065	56.84	1.804
MAJOR SKIN DISORDERS AGE>69 AND/OR CC	69.22	1.540	58.3	1.643	44.69	1.862	41.85	1.473
MAJOR SKIN DISORDERS AGE<70 W/O CC	49.02	1.537	40.94	1.758	78.94	1.342	37.42	1.208
MALIG BREAST DISORDERS AGE>69 +/OR CC	154.01	1.371	158.01	1.035	110.77	1.386	120.68	1.432
MALIG BREAST DISORDERS AGE<70 W/O CC	118.41	0.985	78.74*	0.767	221.1*	0.735	222.88	1.109
NON-MALIG BREAST DISORDERS	95.68	1.166	122.05	0.845	137.76	0.849	92.78	0.859
CELLULITIS AGE>69 +/OR CC	38.01	1.871	46.37	1.541	32.42	1.896	42.42	1.848
CELLULITIS AGE 18-69 W/O CC	30.15	1.473	28.19	1.841	27.99	1.650	41.05	1.929
CELLULITIS AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
TRAUMA TO SKIN SUBCUT TISS+BRST AGE>69 +/OR CC	62.9	0.991	58.77	1.424	36.67	1.521	49.96	1.079
TRAUMA SKIN SUBCUT TISS+BRST AGE18-69 W/O CC	60.46	1.130	55.62	1.608	30.45	1.370	45.44	1.589
TRAUMA SKIN SUBCUT TISS+BRST AGE 0-17	0*	0.000	130.93*	0.012	0*	0.000	0*	0.000
MINOR SKIN DISORDERS AGE>69 AND/OR CC	79.64	2.289	88.04	1.502	46.42	1.758	68.55	1.787
MINOR SKIN DISORDERS AGE<70 W/O CC	83.85	1.350	61.45	1.171	75.55	1.338	71.84	1.573
AMPUTATIONS FOR ENDOC NUTR+METAB DISORDERS	287.34	0.762	294.74	0.785	332.06	0.618	339.9	0.942
ADRENAL+PITUITARY PROCEDURES	974.49	0.374	708.38	0.456	554.25	0.347	876.6	0.558
SKIN GRAFTS+WND DEBR FOR ENDOC,NUTR+META DIS	215.82	0.746	277.58	0.818	247.01	0.621	263.11	0.894
OR PROCEDURES FOR OBESITY	247.02	0.333	181.7*	0.347	364.21*	0.285	442.86	0.653
PARATHYROID PROCEDURES	385.28	0.390	357.02	0.396	379.8	0.346	438.4	0.457
THYROID PROCEDURES	316.64	0.444	305.67	0.424	338.79	0.297	314.83	0.330
THYROGLOSSAL PROCEDURES	212.58*	0.502	229.47*	0.015	255.21*	0.006	211.52*	0.534
OTH ENDOC,NUTR+METAB OR PROCS AGE>69 +/OR CC	396.31	0.535	430	0.620	528.5	0.790	475.76	1.304
OTH ENDOC,NUTR+METAB OR PROCS AGE<70 W/O CC	334.21	0.609	336.65*	0.367	268.74*	0.003	424.33*	0.677
DIABETES AGE>36	55.26	1.626	52.13	1.768	38.16	2.090	49.21	1.653
DIABETES AGE 0-35	41.49	1.581	20.41	1.661	31.67	1.578	28.39	1.851
NUTR+MISC META DISORDERS AGE>69 +/OR CC	58.61	1.441	61.76	1.619	42.34	1.814	52.82	1.482
NUTR+MISC META DISORDERS AGE 18-69 W/O CC	66.26	1.286	53.69	1.620	32.44	1.712	47.52	2.501
NUTR+MISC META DISORDERS AGE 0-17	0*	0.000	0*	0.000	0*	0.000	6.67*	1.000
INBORN ERRORS OF METABOLISM	77.98	1.054	35.54	1.519	62.96	1.174	79	0.907
ENDOCRINE DISORDERS AGE>69 AND/OR CC	129.33	1.119	105.03	1.326	90.73	1.430	108.82	1.297

MEANS BASED ON LESS THAN TEN OBSERVATIONS.

ME	ALABAMA MEAN	CV	CONNECTICUT MEAN	CV	WASHINGTON MEAN	CV	WISCONSIN MEAN	CV
DOCRINE DISORDERS AGE<70 W/O CC	104.05	0.937	56.15	2.101	65.6	1.355	142.31	1.546
DNEY TRANSPLANT	731.82	0.385	757.25	0.485	764.69	0.307	1037.54	0.650
DNEY,URETER+MAJ BLADDER PROCS FOR NEOPLASM	652.75	0.469	647.36	0.563	616.26	0.605	661.31	0.520
DNEY,URETER+MAJ BLADDER PROCS NON-MALIG AGE>69 O	422.31	0.535	470.84	0.595	522.87	0.636	456.87	0.626
DNEY,URETER+MAJ BLADDER PROCS NONMALG AGE<70 W/O	323.99	0.560	414.68	0.541	418.89	0.631	397.92	0.591
OSTATECTOMY AGE>69 AND/OR CC	273.19	0.402	249.47	0.502	270.88	0.373	258.35	0.434
OSTATECTOMY AGE<70 W/O CC	255.15	0.555	220.16	0.344	220.98	0.312	229.23	0.311
NOR BLADDER PROCS AGE>69 AND/OR CC	232.11	0.516	246.13	0.678	247.17	0.647	303.76	0.860
NOR BLADDER PROCS AGE<70 W/O CC	221.4	0.606	161.31	0.387	188.11	0.553	224.71	0.592
ANSURETHRAL PROCS AGE>69 +/OR CC	216.24	0.550	177.25	0.642	201.56	0.609	207.08	0.716
ANSURETHRAL PROCS AGE<70 W/O CC	185.3	0.487	157.28	0.382	171.96	0.519	170.77	0.428
ETHRAL PROCS AGE>69 +/OR CC	188.82	0.511	133.72	0.358	168.93	0.608	170.04	0.514
ETHRAL PROCS AGE 18-69 W/O CC	153.47	0.620	127.36	0.343	125.33	0.399	173.27	0.940
ETHRAL PROCS AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
H KIDNEY+URINARY TRACT OR PROCS	358.16	0.523	328.29	0.673	415.51	0.771	470.9	0.774
NAL FAILURE W/O DIALYSIS	87.43	1.539	79.51	1.444	140.58	2.016	92.89	2.097
NAL FAILURE WITH DIALYSIS	0*	0.000	26.64	2.117	9.59*	2.003	24.92*	1.282
DNEY+URIN TRACT NEOPLASM AGE>69 +/OR CC	166.28	1.369	188.76	1.343	173.29	1.252	134.41	1.487
DNEY+URIN TRACT NEOPLASM AGE<70 W/O CC	216.5	1.007	103.36	1.570	178.46	0.690	167.88	1.549
DNEY+URIN TRACT NEOPLASM AGE>69 +/OR CC	55.87	1.390	72.5	1.368	49.81	1.719	52.05	1.404
DNEY+URIN TRACT INFEC AGE 18-69 W/O CC	62.04	1.314	73.39	0.958	45.69	1.681	64.69	1.297
DNEY+URIN TRACT INFEC AGE 0-17	90.56*	0.012	0*	0.000	0*	0.000	0*	0.000
INARY STONES AGE>69 AND/OR CC	106.2	1.060	103.47	1.096	128.4	1.280	102.93	0.963
INARY STONES AGE<70 W/O CC	83.08	0.798	75.16	1.335	83.33	1.424	83.69	0.957
DNEY+URIN TRACT SIGNS+SYMPS AGE>69 +/OR CC	72.92	1.371	73.33	1.368	68.23	1.608	70.34	1.430
DNEY+URIN TRACT SIGNS+SYMPS AGE 18-69 W/O CC	74.25	1.097	98.02	0.963	79.56	0.965	51.54	1.468
DNEY+URIN TRACT SIGNS+SYMPS AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
ETHRAL STRICTURE AGE>69 +/OR CC	82.48	1.012	101.46	0.921	99.32	0.638	92.65	1.170
ETHRAL STRICTURE AGE 18-69 W/O CC	75.94	1.262	82.23	0.621	99.85*	0.445	49.58	0.980
ETHRAL STRICTURE AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
H KIDNEY+URIN TRACT DXS AGE>69 +/OR CC	118.02	1.291	124.04	1.321	117.49	1.495	90.8	1.447
H KIDNEY+URIN TRACT DXS AGE18-69 W/O CC	118.16	1.047	137.23	1.234	143.49	1.064	131.39	0.993
H KIDNEY+URIN TRACT DXS AGE 0-17	111.57*	0.010	0*	0.000	0*	0.000	164.7*	1.414
JOR MALE PELVIC PROCS W CC	372.68	0.449	327.36	0.444	415.14	0.400	468.7	1.203
JOR MALE PELVIC PROCS W/O CC	363.87	0.660	270.65	0.459	430.76	0.423	414.15	0.435
RP AGE>69 +/OR CC	273.13	0.445	231.06	0.458	253.5	0.444	265.28	0.487
RP AGE<70 W/O CC	228.26	0.338	204.1	0.501	226.89	0.241	221.77	0.374
STES PROCS FOR MALIGNANCY	303.71	0.610	211.52	0.679	226.1	0.787	277.59	0.752
STES PROCS NONMALIGNANCY AGE>70	168.13	0.323	148.86	0.268	176.3	0.315	190.77	0.650
STES PROCS NONMALIGNANCY AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
NIS PROCEDURES	194.03	0.420	212.08	0.518	192.63	0.351	224.58	0.524
RCUMCISION AGE >17	150.89	0.269	121.01	0.250	189.43	0.394	161.9	0.552
RCUMCISION AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
H MALE REPRO SYS OR PROCS FOR MALG	495.6	0.745	352.12	0.710	317.55	0.757	342.21	0.718
H MALE REPRO SYS OR PROCS EXC MALG	202.93	0.318	175.86	0.466	191.16	0.422	200.92	0.501
LIGNANCY, MALE REPRO SYS AGE>69 +/OR CC	133.8	1.266	123.54	1.108	123.76	1.392	123.61	1.322
LIGNANCY, MALE REPRO SYS AGE<70 W/O CC	131.01	0.931	103.24	0.630	117.56	1.142	129.07	0.981
NIGN PROSTATIC HYPERTROPHY AGE>69 +/OR CC	101.64	1.003	94.05	0.955	112.31	0.753	89.93	1.326
NIGN PROSTATIC HYPERTROPHY AGE<70 W/O CC	102.28	0.701	98.22	0.535	130.58	0.393	124.51	0.658
FLAMMATION MALE REPROD SYSTEM	53.02	1.299	56.29	1.361	49.53	1.458	49.47	1.382

ANS BASED ON LESS THAN TEN OBSERVATIONS.

ME	ALABAMA MEAN	CV	CONNECTICUT MEAN	CV	WASHINGTON MEAN	CV	WISCONSIN MEAN	CV
ERILIZATION, MALE	56.98*	0.018	106.62*	0.006	0*	0.000	8.91*	0.028
H MALE REPROD SYS DIAGNOSES	55.62	1.082	93.14	0.894	56.52	1.178	79.68	1.287
LVIC EVIS,RADICAL HYSTERECTOMY+VULVECTOMY	497.67	0.983	442.44	0.692	460.78	0.555	554.4	0.533
NRADICAL HYSTERECTOMY AGE>69 +/OR CC	333.51	0.488	305.49	0.451	365.03	0.455	331.42	0.415
NRADICAL HYSTERECTOMY AGE<70 W/O CC	271.67	0.411	275.49	0.380	304.78	0.246	293.46	0.317
MALE REPROD SYS RECONSTRUCTIVE PROCS	195.68	0.331	201.02	0.339	217.02	0.378	223.35	0.448
ERUS+ADENEXA PROCS FOR MALIGNANCY	486.52	0.471	348.76	0.459	458.32	0.600	447.24	0.436
ERUS+ADENEXA PROCS FOR NONMALIG EX TUBAL INTER	291.39	0.455	222.45	0.541	312.15	0.374	340.38	0.472
BAL INTERRUPTION FOR NONMALIGNANCY	24.35*	0.408	174.66*	0.154	253.75*	0.184	111.48*	0.752
GINA,CERVIX+VULVA PROCS	244.38	0.741	197.28	0.689	259.55	0.890	231.95	0.976
PAROSCOPY+ENDOSCOPY (FEMALE) EXC TUBAL INTRP	340.89	0.921	159.26*	0.532	233.17	0.277	268.28	0.591
PAROSCOPIC TUBAL INTERRUPTION	54.35*	0.995	136.11*	0.038	186.37*	0.010	0*	0.000
+C, CONIZATION+RADIO-IMPL FOR MALIG	371.03	0.647	232.79	0.787	360.37	0.767	357.14	0.986
+C, CONIZATION EXC MALIG	152.97	0.440	114.04	0.367	142.97	0.331	155.65	0.452
H FEMALE REPROD SYS OR PROCS	320.51	0.588	353.29	0.587	363.27	0.999	390.07	0.529
LIGNANCY OF FEMALE REPROD SYS AGE>69 +/OR CC	162.53	1.300	94.51	1.201	121.8	2.003	120.94	1.324
LIGNANCY OF FEMALE REPROD SYS AGE<70 W/O CC	111.53	1.736	134.79*	0.945	57.38	2.206	93.48	1.936
FECTIONS, FEMALE REPROD SYS	61.18	1.094	142.18	0.937	79.55	1.440	73.1	1.495
NSTRUAL+OTH FEMALE REPROD SYS DISORDERS	89.43	1.153	53.2	1.343	99.79	1.046	74.04	1.276
SAREAN SECTION W CC	123.32*	1.000	161*	0.346	224.24*	0.157	221.52	0.675
SAREAN SECTION W/O CC	146.78	0.560	179.48*	0.204	217.07*	0.234	205.21*	0.159
GINAL DELIVERY W COMPLICATED DX	42.3*	1.414	76.11*	0.514	167.17*	1.284	2.37*	1.005
GINAL DELIVERY W/O COMPLICATED DX	16.83	2.587	5.37	3.322	18.67	2.363	14.55	2.423
GINAL DELIVERY W STERIL +/OR D+C	61.92*	0.544	131.24*	0.009	0*	0.000	22.88*	0.270
GINAL DELIVERY W OR PROC EXC STER OR D+C	0*	0.000	0*	0.000	0*	0.000	0*	0.000
STPARTUM DX W/O OR PROC	113.16*	0.012	0*	0.000	0*	0.000	0*	0.000
STPARTUM DX W OR PROC	0*	0.000	0*	0.000	0*	0.000	0*	0.000
TOPIC PREGNANCY	25.87*	0.025	0*	0.000	0*	0.000	129.56*	1.000
REATENED ABORTION	15.92*	0.025	28.12*	0.017	63.96*	0.012	7.6*	1.001
ORTION W/O D+C	71.67*	1.140	0*	0.000	38.59*	0.022	67.01*	0.486
ORTION WITH D+C	60.53*	1.052	0*	0.000	84.59*	0.083	154.98*	0.492
LSE LABOR	26.66*	0.022	0*	0.000	0*	0.000	0*	0.000
H ANTEPARTUM DX W MED COMPLICATIONS	8.47*	1.673	108.99*	0.445	48.2*	0.651	62.53*	1.873
H ANTEPARTUM DX W/O MED COMPLICATIONS	0*	0.000	0*	0.000	0*	0.000	0*	0.000
ONATES, DIED OR TRANSFERRED	0*	0.000	0*	0.000	0*	0.000	588.41*	0.841
TREME IMMATURITY, NEONATE	0*	0.000	0*	0.000	0*	0.000	0*	0.000
EMATURITY WITH MAJ PROBLEMS	0*	0.000	0*	0.000	0*	0.000	0*	0.000
EMATURITY W/O MAJ PROBLEMS	0*	0.000	0*	0.000	0*	0.000	0*	0.000
LL TERM NEONATE W MAJOR PROBLEMS	143.23*	1.355	0*	0.000	0*	0.000	314.6*	1.348
ONATES W OTHER SIGNIFICANT PROBLEMS	385.53*	1.021	0*	0.000	170.29*	0.009	532.98*	0.176
RMAL NEWBORNS	0*	0.000	0*	0.000	0*	0.000	0*	0.000
PLENECTOMY AGE>17	570.39	0.632	380.14	0.351	429.74	0.344	563.86	0.564
PLENECTOMY AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
THER OR PROCS OF BLOOD+BLOOD FORMING ORGANS	263.08	0.637	221.27	0.583	292.95	0.475	310.12	0.558
D BLOOD CELL DISORDERS AGE>17	83.08	1.243	55.19	1.450	46.73	1.916	68.14	1.324
D BLOOD CELL DISORDERS AGE 0-17	0*	0.000	0*	0.000	54.36*	0.787	0*	0.000
AGULATION DISORDERS	77.69	1.206	71.38	1.633	58.53	1.426	83.65	1.355
TICULO+IMMUNITY DISORDERS AGE>69 +/OR CC	87.26	1.415	70.73	1.441	94.98	1.314	88.49	1.289
TICULO+IMMUNITY DISORDERS AGE<70 W/O CC	91.6	1.740	21.22	1.497	44.04	2.540	113.88	1.016
MPHOMA OR LEUKEMIA W MAJ OR PROCS	499.72	0.482	519.78	0.641	465.52	0.437	620.56	0.492

ANS BASED ON LESS THAN TEN OBSERVATIONS.

ADJUSTED RAP CHARGES BY DRG

ME	ALABAMA MEAN	CV	CONNECTICUT MEAN	CV	WASHINGTON MEAN	CV	WISCONSIN MEAN	CV
MPHOMA OR LEUKEMIA W MINOR PROC AGE >69 +/OR CC	401.77	0.496	307.06	0.728	396.63	0.750	392.62	0.576
MPHOMA OR LEUKEMIA W MINOR OR PROC AGE<70 W/O CC	342.52	0.550	254.81	0.570	323.26	0.367	351.3	0.481
MPHOMA OR LEUKEMIA AGE>69 +/OR CC	163.82	1.279	136.26	1.342	134.44	1.469	155.79	1.444
MPHOMA OR LEUKEMIA AGE 18-69 W/O CC	145.18	1.228	97.64	1.372	84.38	2.171	122.84	1.596
MPHOMA OR LEUKEMIA AGE 0-17	0*	0.000	429.36*	0.003	0*	0.000	0*	0.000
EL DISO PLY DIF NEOP W MAJ OR PROC + CC	469.92	0.585	561	0.558	434.09	0.710	493.65	0.543
EL DISO PLY DIF NEOP W MAJ OR PROC W/O CC	414.77	0.683	376.64	0.589	405.18	0.508	311.3	0.506
EL DISO PLY DIF NELP W MNR OR PROC	480.26	0.540	330.6	0.869	454.49	0.774	467.74	0.718
DIOTHERAPY	329.76	0.872	239	1.017	408.86	1.083	484.62	0.840
EMOTHERAPY	27.84	2.438	38.61	2.218	20.78	3.145	24.52	3.064
ISTORY OF MALIGNANCY W/O ENDOSCOPY	174.72	0.928	89.14	1.070	153.92	0.817	121.23	1.031
ISTORY OF MALIGNANCY W ENDOSCOPY	110.73	1.049	65.23	0.906	126.86*	0.488	56.41	1.050
R MYEL DISORD PRLY DIF NEOP AGE>69 +/OR CC	148.79	1.327	128.96	1.336	161.95	1.409	142.15	1.564
R MYEL DISORD PRLY DIF NEOP DX AGE<70 W/O CC	141.32	1.115	136.35	1.459	174.57	2.172	128.17	1.590
R PROCS FOR INFECT+PARAS DISEASES	337.77	0.738	356.16	0.872	458.65	0.952	396.57	0.762
EPTECEMIA AGE>17	69.06	1.665	97	1.381	94.08	1.504	79.62	1.517
EPTECEMIA AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
OSTOP+POSTTRAUMATIC INFECT	50.73	2.453	49.23	1.622	80.26	1.683	54.71	3.413
EVER UNKNWN ORIGIN AGE>69 +/OR CC	91.32	1.362	88.71	1.400	71.79	1.823	88.55	1.552
EVER UNKNWN ORIGIN AGE 18-69 W/O CC	121.44	1.219	84.23	1.702	116.96	1.417	109.22	1.074
IRAL ILLNESS AGE>17	49.15	1.408	46.65	1.344	42.17	1.922	44.39	1.577
IRAL ILLNESS+FEVER UNKNWN ORIGIN AGE 0-17	0*	0.000	0*	0.000	0*	0.000	139.3*	0.008
THER INFECT+PARAS DISEASES DXS	100.45	1.543	69.42	1.329	70.31	1.336	111.48	1.569
THER PROCS W PRINCIPAL DX OF MENTAL ILLNESS	317.28	0.575	272.46	0.608	367.94	0.654	369.44	0.507
CUTE ADJ REACT+DIST PSYCHSOCIAL DYSFUNCTION	64.31	1.252	41.39	1.440	44.03	2.158	49.92	1.544
EPRESSIVE NEUROSES	60.65	1.495	56.34	1.559	30.38	1.957	56.01	2.185
EUROSES EXC DEPRESSIVE	60.62	1.823	42.52	2.403	34.27	3.599	34.92	1.917
ISORDERS OF PERSONALITY+IMPULSE CONTROL	63.33	1.703	17.59	2.405	30.15	1.915	30.66	2.475
RGANIC DISTURBANCES+MENTAL RETARDATION	86.57	1.141	63.38	1.235	54.6	1.555	68.31	1.578
SYCHOSES	62.3	1.767	71.56	1.934	55.16	2.854	59.66	1.987
HILDHOOD MENTAL DISORDERS	54.79	1.099	12.83*	1.194	47.21	1.488	49.4	1.328
THER DXS OF MENTAL DISORDERS	52.66	1.895	56.9*	1.103	52.35	1.026	69.41	1.170
UBS USE+SUBS IND ORGANIC MENAL DIS,LEFT APA	9.03	1.409	13.2*	0.980	5.06	1.310	15.87	2.107
RUG DEPENDENCE	72	1.541	32.04	1.502	23.94	3.226	39.5	1.589
RUG USE EXC DEPENDENCE	54.76	1.286	50.88*	0.684	4.97*	1.259	15.27	1.887
LCOHOL DEPENDENCE	45.45	1.684	49.38	2.731	25.77	2.508	41.32	2.040
LCOHOL USE EXC DEPENDENCE	21.16	1.377	22.52	2.104	19.88	1.604	18.05	1.866
LCOHOL+SUBS INDUCED ORGANIC MENTAL SYNDROME	47.12	2.003	36.85	1.796	27.27	2.394	40.54	1.526
KIN GRAFTS FOR INJURIES	221.42	0.725	337.23	1.942	300.61	0.576	292.9	0.735
OUND DEBRIDEMENTS FOR INJURIES	223.63	0.612	258.67	0.946	296.18	0.593	301.93	1.089
AND PROCEDURES FOR INJURIES	171.9	0.299	281.11	1.291	203.75	0.356	193.1	0.482
THER OR PROCS FOR INJURIES AGE>69 +/OR CC	308.15	0.701	379.97	0.835	359.21	0.846	402.31	0.810
THER OR PROCS FOR INJURIES AGE<70 W/O CC	255.3	0.673	328.08	0.709	336.88	0.780	307.94	0.675
ULTIPLE TRAUMA AGE>69 +/OR CC	74.29	1.168	62.56	1.813	49.4	1.677	63.96	1.172
ULTIPLE TRAUMA AGE 18-69 W/O CC	71.33	1.447	44.79*	1.038	66.74*	1.081	148.06	3.128
ULTIPLE TRAUMA AGE 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
LLERGIC REACTIONS >17	26.62	2.100	39.84	1.473	25.3	1.513	28.42	1.769
LLERGIC REACTIONS 0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
OXIC EFFECTS OF DRUGS AGE>69 +/OR CC	45.7	1.519	41.53	1.528	34.32	1.749	43.02	1.677
OXIC EFFECTS OF DRUGS AGE18-69 W/O CC	35.54	1.524	18.34	2.373	21.88	1.802	26.14	2.294

EANS BASED ON LESS THAN TEN OBSERVATIONS.

ADJUSTED RAP CHARGES BY DRG

NAME	ALABAMA MEAN	ALABAMA CV	CONNECTICUT MEAN	CONNECTICUT CV	WASHINGTON MEAN	WASHINGTON CV	WISCONSIN MEAN	WISCONSIN CV
TOXIC EFFECTS OF DRUGS AGE0-17	0*	0.000	0*	0.000	0*	0.000	0*	0.000
COMPLCATIONS OF TREATMENT AGE>69 +/OR CC	73.87	1.758	76.53	1.631	96.05	1.535	82.74	1.748
COMPLCATIONS OF TREATMENT AGE<70 W/O CC	110.76	1.274	50.79	1.513	137.75	1.244	85.34	1.959
OTH INJURIES,POIS+TOXIC EFF DXS AGE69 +/OR CC	63.41	1.335	57.85	1.476	72.33	2.093	61.31	2.216
OTH INJURISE,POIS+TOXIC EFF DXS AGE<70 W/O CC	82.59	1.226	26.47*	1.473	20.33*	1.959	26.55	1.052
BURNS,TRANSFERRED TO ANOTHER ACUTE CARE FACILITY	126.21*	1.659	115.97*	1.000	0*	0.000	0*	0.000
EXTENSIVE BURNS	318*	0.947	449.58*	1.649	446.83*	0.842	98.4*	1.414
NONEXTENSIVE BURNS W SKIN GRAFTS	226.29	0.811	310.8	0.444	280.48	0.548	391.21	0.981
NONEXTENSIVE BURNS W WOUND DEBRIDE	210.38	0.526	165.73	0.775	128.15*	0.292	126.18	0.895
NONEXTENSIVE BURNS W/O OR PROCEDURE	30.77	1.755	25.74	1.458	43.63	1.859	50.26	3.175
OR PROC W DIAG OT CONTACT W HEALTH SVS	268.37	0.612	212.66	0.790	326.36	0.955	329.85	1.022
REHABILITATION	276.6	1.171	228.06	1.332	243.64	1.400	336.39	1.445
SIGNS+SYMPTOMS WITH CC	91.3	1.320	66.75	1.302	103.71	2.315	77.51	1.880
SIGNS+SYMPTOMS W/O CC	107.5	1.222	58.79	1.619	61.58	1.740	80.94	1.615
AFTERCARE W HX OF MALIG AS SECONDARY DX	66.22	1.146	52.2	0.920	131.4*	1.032	79.23	1.589
AFTERCARE W/O HX OF MALIG AS SECONDARY DX	206.51	1.450	86.14	1.736	177.21	1.470	115.38	2.146
OTHER FACTORS INFLUENCING HEALTH STATUS	92.93	1.372	78.37	2.584	132.47	2.043	79.87	2.183
UNRELATED OR PROCEDURE	356.06	0.650	351.23	0.711	399.32	0.658	404.48	0.764
PDX INVALID AS DISCHARGE DIAG	0*	0.000	0*	0.000	0*	0.000	0*	0.000
UNGROUPABLE	76.58	1.639	133.61	1.443	155.05	1.286	197.2*	0.519

*MEANS BASED ON LESS THAN TEN OBSERVATIONS.

Note: Charges have been adjusted using the hospital PPS wage index.

Source: Mitchell and Rosenbach (1987) using Part A and B claims data, 1984

CMS LIBRARY
3 8095 00014041 4